ARCHIVES OF SURGERY.

APRIL, 1892.

ON DETACHMENT OF THE EPIPHYSAL HEAD OF THE FEMUR.

So far as I know, we do not yet possess, in any museum-specimen, or published account of dissection, an illustration of traumatic detachment of the head of the femur (see p. 295). Yet I feel confident that it is an accident which is not very infrequent. The only reason why we get no specimens is, that it does not occur in connection with injuries which cause death. I have seen at least four cases in which it was diagnosed immediately after the accident, and several others in which the patient came under observation many years after the injury with all the symptoms of non-union. Two of the four recent cases referred to, although seen by me, were not under my own care—one was under the care of the late Mr. John Adams, and the other under that of the late Mr. Hilton. In my own case I had no doubt about the diagnosis, and I published the details of the case at the time. In both the other two the diagnosis was made by Mr. Hilton. Of another case under my own care in the London Hospital, although it occurred as long ago as 1873, the details have, I believe, never been published. It was that of a boy aged 4½ years, who had fallen out of a high bed. There was at least an inch of shortening with inversion, and a distinct cartilaginous crepitus was detected when the limb was drawn into position. The deformity was reproduced immediately that extension was

remitted. We did our best to keep the bone in position, but I am not sure that we obtained union. As it is possible that this patient may come under the observation of some other surgeon, and an opportunity be afforded for ascertaining the present condition, I will give his name. It was Herbert Ballard, and he was treated at the London Hospital in June, 1873. From the lower animals I have obtained several specimens, all resulting from violence in attempt at sexual connection. One of them was from a young doe-rabbit, not fully grown, but of a very large breed, which had been observed to resist the attentions of a strong old buck. After repeated struggles to escape from him, the animal was seen to be very lame, and was killed. On dissection, the upper epiphyses of the femora were found to be detached. My friend the late Mr. Wilcox, of Aylesbury, sent me the upper epiphyses of a young sow pig which had been detached in a precisely similar way. He told me that it was an accident which pig-breeders were familiar with, and that they knew well that it was dangerous to put a heavy boar to a sow which had not attained her growth. These cases are of importance in the comparative absence of facts illustrating such accidents in man, since they prove that, under certain conditions, the epiphysis in question may without much difficulty be completely detached. If, indeed, we remember how closely the head of the femur is fitted into the acetabulum, we shall have no difficulty in admitting that it offers more, perhaps, than the articular head of any other long bone, the conditions likely to favour detachment. It might, indeed, be supposed much more easy to detach it than the upper epiphysis of the humerus. Yet detachment of the latter is known to be common. It is probably the length and inclination of the neck which save the epiphysal line in the case of the femur by throwing the force upon other parts. As these are both of them less pronounced in early life, we may reasonably suppose the risk of detachment to be greater then than later. I make this remark because I shall presently have to mention several cases in which in infants comparatively trifling violence appeared to have produced the lesion. We may probably venture to assume that of the

three accidents, fracture of the neck, dislocation, and separation of the neck from the head at the acetabular edge, the latter is by far the most likely injury to occur in young persons. Fractures of the neck as distinct from detachments of the head are perhaps unknown, and not improbably all cases in which they have been suspected were really examples of the latter. It would be next to impossible to establish a diagnosis during the patient's life.

Separations of the upper epiphysis of the femur may be supposed in the recent stage to usually present symptoms leading to doubt between dislocation and fracture. In such cases, if the patient be under twenty, a detached epiphysis should be suspected. In my own case, to which I have referred, my house surgeons were puzzled by the circumstance, that after what they supposed satisfactory reduction of a dislocation, the head of the bone slipped out again repeatedly. It was impossible to retain it, and this symptom made me feel certain that the head was detached.

In the later stage of confirmed non-union, which according to my experience is that which most frequently comes under notice, the symptoms are those of unreduced dislocation upon the dorsum, but with very free mobility and with inability to find the rounded head of the bone. The femur can usually be rotated with unusual ease, and in some instances pushed upwards and pulled downwards with considerable freedom. It is to examples of this condition of things in conjunction with a history entirely negative as regards disease, that I am now about to ask my readers attention.

In Dr. Hamilton's excellent work on "Fractures and Dislocations," I find three cases of supposed separation of the upper epiphysis of the femur, but none of them from his own practice. In none of them can the diagnosis be considered as conclusive. The first is recorded by Mr. South in his edition of Chelius. A boy, aged ten, fell from a first floor window and hurt his left hip. There was scarcely any difference in the length of his limbs, but the left foot was slightly turned outwards. "The thigh could be moved readily in any direction, and without much pain; but on

bending the knee and rotating the limb outwards a very distinct dummy sensation, as it seemed, within the hip joint, as if one articular surface had slipped off another." The boy suffered so little inconvenience, that he two or three times got out of bed and walked about for a short distance. In this instance the evidence must be admitted to be very incomplete. The second case is recorded by Dr. Parker, of New York, but was only seen by him seven years after the accident. A girl of eleven fell on her hip, abscess followed, and she eventually recovered, with an inch and half of shortening, an everted foot, but "perfect motion at the joint." This latter circumstance led to the diagnosis of separation of the epiphysis. In the third case, Dr. Post, of New York, saw the patient, a girl of sixteen, the day after the accident, and found the limb everted, and an inch shortened. Crepitus was detected. The age of the patient renders the diagnosis of separated epiphysis very probable. The patient recovered, with a slight shortening of the limb.

The following note is only an unverified fragment, but all that bears upon detachment of the upper epiphysis of the femur is so valuable that I do not like to wholly neglect it. A very intelligent man told me that one of his brothers had been obliged all his life to wear a high-heeled boot because "one hip had been dislocated" in a fall from his rocking-horse when a child. The "dislocation" had, I was told, not been recognized or reduced, and hence permanent shortening of the limb. The diagnosis of dislocation was based upon opinions given by consultants long after the accident. Looking at the age of the patient, and also at the fact that the early diagnosis was missed, it is far more likely to have been a detached epiphysis than a real dislocation. I never myself saw the patient.

My next case is a more detailed one.

A little girl, who was sent to me by Mr. Groves, of Woodford, presented conditions which were very suggestive of an ununited separation of the epiphysis. She was four years of age, very active, said to be always in motion, and never complaining of pain. She had never been laid up by any illness. There was a history of two accidents in infancy, one at the age of one month and the other at the age of six

months; but after neither of them had there been any special treatment. Her condition when brought to me was that the right limb was one inch shorter than the other, the shortening being apparently at the hip. There was neither inversion nor eversion, but the limb was simply shorter and too movable at the hip. The great trochanter was much nearer the crest of the ilium on that side than on the other; and the distance between these points could be considerably altered by pulling the limb up and down. Eversion and inversion were also much too free. The examination did not cause the child the slightest pain. A diagnosis of infantile paralysis had formerly been given by a distinguished physician. I could not, however, find any indications in support of this opinion. The limb was well nourished, just as useful as the other, and not liable to become cold. The two calves were of the same girth; nor was there any wasting to be observed about the thigh or buttock. The diagnosis seemed to me to rest between an ununited separation of the head and disease of the hip-joint with absorption of the head of the bone; or possibly a pathological detachment of the epiphysis. With the exception of a rumour that the child used at one time to complain of pain in the knee, there was no history of any symptoms pointing to inflammation of the joint. The child had never been laid up, nor had she ever worn an apparatus.

The preceding case came under notice seven or eight years ago. I have recently seen its exact counterpart. I found it, indeed, hard to believe that it was not the same patient who was again brought to me, for it was the same limb, and the advance in age fitted exactly. Miss G——, a little slim active girl, aged twelve, was sent to me by Dr. Long Fox, of Bristol. She was wearing a boot with two inches of additional heel, and her right limb measured exactly two inches shorter than the other. Yet she could scarcely be considered lame, and I was told that she would run and play as freely as other girls. There was no history of any disease. She had never had any illness, and had never at any time complained of pain in the hip. The monthly nurse, who was a careful person, observed nothing peculiar in her limbs at birth. It was not

until she was several months old that it was discovered that there was something amiss with her right hip, and in the interval (her mother having died) she had been in the sole charge of a nurse girl, who had on one occasion, it was rumoured, in a passion, thrown the crying baby from one end of the bed to the other. This was the only history of injury which could be obtained. From the time of the first discovery of deformity to the present date, the shortening of the affected limb has been steadily increasing, and it has been needful to make the heel thicker and thicker. Excepting this, there has been no inconvenience.

On examining the limb, I found its nutrition perfect. There was, as above stated, two inches of real shortening. The hip was very obviously prominent, and the great trochanter was not more than an inch and a half below the middle of the crest of the ilium. The foot was usually pointed straight, but it could be inverted or everted very easily. It was not easy to push the great trochanter upwards or downwards, but its freedom of rotation was remarkable. The buttock being very thin, it was quite easy to feel a prominence of bone slanting obliquely upwards from the trochanter. This might be the head or only the decapitated neck of the bone. I am inclined to believe that it was the latter, for the following reasons. First, I could not feel the rounded head; secondly, it was shorter than usual in dislocations; thirdly, it was very freely movable; and fourthly, it might be rotated to such an extent, that it could be felt now behind and now in front of the shaft. I cannot think it possible that this last-named alteration of position could be effected in a case of dislocation of the entire bone. These conditions make it, I think, quite certain that in this case we have to do with a femur which has lost its articular head, and our choice of hypotheses lies between a detachment of the epiphysis by violence, a congenital dislocation of a deformed bone, and absorption or detachment of the head by disease. My judgment decidedly inclines to the first-named. There is not a tittle of evidence in favour of disease; nor if the conditions were pathological can I believe that the freedom of motion would be what it is.

In speaking of detachments of the head of the bone in early infancy, it is of course necessary to remember that the whole head, neck, and trochanters are cartilaginous during the first year. There is nothing, therefore, in the anatomical conditions to favour a detachment of the articular head of the bone from the neck excepting the fact that the former is held closely in the acetabular cavity. A fracture through cartilage might occur at any part of the neck, or a detachment between the diaphysis and the epiphysis below both trochanters. I do not know of any recorded case in which the symptoms indicated the latter lesion.

The cases which I have recorded in the present paper clearly prove that there are conditions occasionally met with which are most easily explained on the supposition that the cartilaginous head of the bone has been left in the acetabulum, wholly detached from the neck, as the result of violence in very early infancy. They must not be held to do more, however, than to establish a certain amount of probability. That they constitute a very interesting group of cases which has as yet received very little attention will be readily admitted.

As regards the statement made in the first sentence of this paper, that we have no dissected specimen illustrating the detachment of the articular epiphysis of the femur, I must make some correction. My eldest son, whose Essay on Injuries to the Epiphyses gained the Jacksonian prize in 1889, has drawn my attention to a specimen described by M. Bousseau. It was obtained from a lad of fifteen, and demonstrated detachment exactly at the epiphysal line. Unfortunately, although the specimen was exhibited at the Societé Anatomique, and figured, it is not now extant.

It may be well to add, as a final remark, that in speaking of separations of the epiphysis, I by no means intend to imply that in all cases the exact line of cartilage is observed. In almost all instances the injury is partly a fracture as well. I drew particular attention to this fact many years ago, and compared epiphysal detachments to the tearing of postage stamps. In the latter the weakest place is undoubtedly the perforated line; but in spite of this, unless care be used, the stamp itself may easily be torn.

ABDOMINAL TUMOURS FROM RETENTION.

In the examination of unusual conditions of abdominal enlargement it is difficult to make sufficient allowance for what is possible in the way of passive distension of the viscera. The urinary bladder may fill the belly, and even the gall-bladder may go far towards the same result. The ordinary cause of what is called "pot-belly" is accumulation of feces in the intestines. In the rabbit, and perhaps in most herbivora, it is, strange as may seem the statement, usually the cæcal appendix which undergoes distension, whilst in the human subject the cæcum and colon is the tract involved. I am induced to ask attention to this matter on the present occasion from having recently read the following abstract of a case published by an Australian surgeon. It proves that a knowledge of what is possible is of great importance in order to the avoidance of most grave errors in practice.

"A remarkable case of fæcal accumulation is reported by Dr. R. Worrall in the *Australasian Medical Gazette*. The patient was a girl, aged thirteen, of a cachectic appearance, who had a rapidly growing abdominal tumour. Aperients were given, and for several days a large quantity of very offensive fæcal matter was discharged, but without any noticeable effect in reducing the volume of the tumour. As the child was evidently sinking, it was determined to make an exploratory laparotomy, the supposition being that the tumour was malignant. On opening the abdomen, however, the swelling was found to be an enormous accumulation of feces in the cæcum and colon. The operation seemed to have had a stimulating effect upon the bowels, which acted almost continuously for a few days. In six days the tumour had entirely disappeared, and the child made a good

recovery, her life having probably been saved by an error in diagnosis."

Dr. Worrall's narrative brings to my mind a precisely similar case which came under my own observation many years ago. I was consulted by my friend Dr. Mundie, formerly of Dalston, in the case of a young girl who had "an abdominal tumour." The child was about twelve years old, pale and emaciated, and her abdomen was as large relatively to her body as that of the last month of pregnancy. She was confined to her bed. I found to my astonishment that in pressing the fingers firmly upon the swelling an indentation was left, as if it were so much dough. Further examination convinced both Dr. Mundie and myself that this was due to distension, by soft feces, of an enormously dilated colon. The rectum was found to be full of the same. Suitable measures were adopted—first the spoon, afterwards enemata, aperients, and nux vomica—and the child was soon relieved of the accumulation and restored to fair health.

It must never be forgotten that in these cases there is often no obvious retention. In the one which I have just narrated there was, if I remember correctly, reputed incontinence of feces and not constipation. This is constantly the fact in instances of over-distension of the urinary bladder, and it misleads often both the patient and the practitioner. In a very early period of my career I once tapped a woman's abdomen with a small exploring trocar and drew off urine. Fortunately no harm followed, and I learnt a lesson. On another occasion, much more recently, I was taken into the country by an accomplished gynecologist to assist in the diagnosis of a large tumour which had puzzled him. The result of our examination was that we passed a catheter and took the tumour quite away. The lady had been voiding urine freely, and this had caused the mistake.

In at least one case, on record, the abdomen has been laid open for ovariotomy, and the tumour then found to be a distended gall-bladder.

In the male subject I have known many blunders as to the diagnosis of a distended urinary bladder. Six or eight years ago an elderly gentleman travelled up from Devonshire to

consult me with what he had been told was an incurable tumour in his abdomen. It was nothing but his bladder, but it presented the unusual feature of being not in the least tense, and, although it reached the navel, it felt loose, and could be easily pushed from side to side. Catheters were used, and after the not unusual attack of cystitis as a result, recovery followed. This patient is, I believe, at the present time in the enjoyment of good health. It is a curious fact that in this as in most other cases of painless vesical distension, no cause of obstruction could be discovered. They appear to be examples of simple atony.

During the last year I have attended another case exactly like that just narrated. An old gentleman, who averred that he had never in his life had the least difficulty in passing his water, had a very large abdominal tumour. A medical consultation took place, and a grave diagnosis was given. A week or two later I was consulted. I found the tumour quite lax, and easily swayed from side to side, but as it fluctuated and was in the middle line, I could not doubt that it was the bladder. The catheter proved the correctness of this surmise.

I may venture to offer the following categorical memoranda for the avoidance of error in the recognition of abdominal retention-tumours.

1. The distension, although enormous, is usually quite painless.

2. The retention is never absolute, but only residual. There is always overflow.

3. The patient never assists the surgeon, but rather misleads him, insisting that there is free relief of bowels and bladder.

CASES OF CONGENITAL ABSENCE OF THE RADIUS.

In March, 1871, Dr. Niblett, of Hackney, brought to me an infant aged six weeks, with symmetrically malformed upper extremities. In each the forearm was extremely short, the thumb was absent, and the hand was turned back on the radial side of the lower third of the ulna. The child preferred to lie with the palm of the hand resting upon the front of the upper arm just above the elbow, a position which is of course quite impossible in the natural condition of the limb. The four fingers were perfect and of good size, and the limb generally was plump and well-nourished. (I possess a photograph of the child, showing the position of the hand.)

As the infant was in good health and fat, it was a little difficult to feel quite certain as to the state of the bones, &c., but by careful examination I satisfied myself that the radius was wholly absent in the left forearm. In the *right* the carpal end of the radius was present, but dwarfed, and a slender portion of bone, in close apposition with the ulna, passed upwards from it for about a third the length of the limb. In the upper two-thirds the radius appeared to be wholly absent. The external condyle of the humerus was, in each arm, imperfectly developed. The ulna appeared to be normal, but was somewhat bent, and its styloid process projected below the displaced carpus. There was no trace of the metacarpal bone of the thumb in either hand. I regret that I did not examine the shoulder. The tendon of the *flexor carpi radialis* became tight when I attempted to put the hand straight, and in subsequent treatment of the case I divided it, and then used splints to extend the hand. We appeared to be getting on very satisfactorily with the treatment of the case, when a few months later the child sickened with an acute illness and died. Unfortunately, no opportunity for a dissection was

allowed, and I was not informed of the child's death until some weeks after its occurrence.

Some years ago the zeal of my house-surgeon, Mr. Williamson (now of Newcastle), secured for me an opportunity of examining an almost precisely similar defect of development in an adult.

A young man applied at the London Hospital in consequence of a fracture of his clavicle. His forearms were extremely short, the upper arm very thin, the carpus displaced upon the side of the ulna, and the thumb deficient. The case differed from that of the child above described, in that on the *right* side the forefinger as well as the thumb was absent, whilst on the *left* the forefinger was firmly united in its entire length to the middle finger. The position of the hand and the remarkable shortening of the forearm are well shown in the sketch which I possess. The external condyle of the humerus was badly developed, whilst the internal, as seen in the sketch, projected conspicuously, probably in consequence of the absence of some of the muscles arising from it. The *flexor carpi radialis*, which was present in the previous case and constituted an obstacle to the replacement of the hand, was in this instance apparently absent, as might of course be expected from the absence of the index finger. I do not think that any portion of the radius was in this case present on either side. The humerus was probably of about normal length, but it was slender and very poorly clothed with muscles. The *triceps* and *brachialis anticus* could be easily felt and, although small, acted vigorously; but the *biceps* and probably the *coraco-brachialis* were absent. The clavicle was very slender, and was bowed forwards in a single curve, which rendered it very prominent at its middle. I could not discover any coracoid process, and the acromion and spine of the scapula were small. Notwithstanding the great deformity which existed, the man told us that his hands were very useful, that he could feed himself, write, and do various kinds of work.

It will be seen that although symmetry of defects was very closely approached in each of my cases, yet that it was not absolute in either.

I find recorded in the interesting lectures on "Bodily Deformities" published by my former colleague, Mr. Chance, a case which was evidently the counterpart of the above, with the exception that it would appear not to have been symmetrical. Mr. Chance gives a woodcut representing the hand exactly in the same position that it was in my patients. His description states that the radius was either altogether wanting or deficient below the bicipital tubercle, and that the ulna was only half its normal length.

Dr. Forster (Würzburg), in his systematic treatise on human malformations, mentions absence of radius as a deformity somewhat less rare than that of the clavicle or scapula. He figures in Plate XII. two arms which closely resemble those of the patients which I have described, in that the forearms are short, the thumbs absent, and the hands bent up on the carpal ends of the ulnæ. Although the text says nothing on this point, I think we may assume that the radius was wholly or in part deficient. These figures show the two arms of the same eight-months male fœtus. They are symmetrical, excepting that in the left the index and middle fingers are webbed together. It does not appear that the arms were dissected. In the same plate, however, Figs. 22 and 24 show an arm of which a dissection was made, and in which the precise condition of things was ascertained. There were only two fingers, the ring and little ones, but the first of these had two metacarpal bones. The radius was wholly absent, the humerus had no condyles, and the carpus had but five bones, the navicular and trapezium and trapezoid being absent. It is not stated whether or not the deformity was symmetrical.

Fig. 5 in Plate XXVI. (copied from Cruveilhier), shows the skeleton of an arm in which the radius was absent with the exception of its humeral extremity, the hand being bent on the ulna and the thumb wanting. I cannot find anywhere any reference to defects in the development of the clavicle or scapula in association with absence of the radius.

Forster, in addition to those which I have mentioned above, gives several illustrations of deformities of the forearm and hand in which probably the radius was defective, but none in

which the similarity to my own is close, inasmuch as other and great defects in development are seen and the forearms were not symmetrical.

It may be well to note that both radius and ulna may be absent, and yet the hand be perfect.

The thumb may be absent whilst yet the radius is present in its entire length, but in these instances the carpal end of the radius is small and the bone short. This state of things is illustrated in Fig. 4 of Plate XXVII. in Forster's Atlas.

Otto Davain and others have published examples of the congenital absence of the thumb due to absence of the radius. The five digits were, however, present in a case reported by W. Gruber where the radius was wanting, and in another and similar case reported by Dolbeau there was a floating thumb attached by a pedicle.*

I have recorded the above cases, together with the references to the literature of the subject, from notes which I wrote out at the time of their occurrence. I mentioned the cases in a Lecture at the College of Surgeons, and after it Dr. Sylvester informed me that he had published the particulars of a precisely similar case with, if I remember rightly, a dissection. I have unfortunately lost the reference which he gave me, and cannot now find the case. The subject has more recently (1882) been ably illustrated in a communication by Dr. Shattock to the Pathological Society (see page 240 of Vol. XXIII. of the Transactions). Dr. Shattock's paper was based on careful dissections, and gives very valuable details as regards nerves, muscles, and bones. At the same meeting Mr. Robert Parker exhibited two living children who were examples of the same condition. In one of the latter there was also deficiency of the tibia in both lower extremities, a very rare defect, and one which it has never fallen to my lot to recognize. Mr. Parker's patient was a boy of two years old, in other respects well developed. A very remarkable feature in the case was that there was a redundancy of digits in three of the limbs. Both feet had six digits each,

* Wenzel Gruber, "Ueber congenit. Radius mangel," *Archiv. fur Pathol. Anat. und Phys.*, t. xl. 427. 1867.

and the right hand had six, but without a thumb. The left hand had four fingers only. On neither of the six-toed feet was the great toe represented.

The first plate of the thirty-eighth Livraison of Cruveilhier's Atlas is of special interest. It shows both hands and both feet of the same child, the omissions being in all four limbs of the same kind, and exactly symmetrical in each pair. The long bones of the forearm and leg and those of the wrist and ankle are normal. In both hands the thumb, fore, and middle finger are omitted, and in both feet the three middle toes. The skeleton of the hands is not given, but that of the feet shows absence of three middle metacarpals (with the exception of a rudiment) and the middle and external cuneiforms.

Specimen No. 330 in the Teratological Department of the College of Surgeons Museum, is an example of a six-months human fœtus in which the radii and the thumbs are wanting. All the bones are abnormally slender, especially the clavicles, which are considerably bent. "The ossification of the sternum is very irregular and imperfect, as is also that of the pubic symphisis."

In preparation 250 (which, on account of deficiency of abdominal parieties and hernia of liver, &c., is placed in the division of Ectopia of viscera) there are present only three fingers on the left hand and four on the right. The left leg is also shortened, and there is a lumbar spina bifida. It is Hunterian.

A few general statements—most of them by no means novel—may be hazarded respecting these remarkable examples of

Congenital Deformity by Omission.

1. They are seldom or never hereditary.

2. They not infrequently occur as strictly local conditions, the rest of the body being well developed.

3. They are also not infrequently attended by other local defects or arrests of development.

4. They are not morphological; that is, they are not examples of reversion to type or of progressive variation.

5. They are usually bilateral, and often very accurately symmetrical, though slight deviations from symmetry are common.

6. They may occur in the upper limbs alone, or in the lower limbs alone, but in some cases may affect all four limbs.

7. The upper extremities are more frequently affected than the lower, and omission of the radius (or part of it) and of the thumb, and possibly the forefinger, is the most common.

8. It is remarkable that omission of the ulna and its associated digits does not occur. (I know of no example.)

9. Although the more obvious omissions occur in the hand or foot, yet certain minor defects may usually be discovered in the entire shoulder- or pelvic-girdle.

10. With omission of the radius goes (as might be expected) omission of the biceps muscle, and imperfect development of the coracoid process.

11. With these omissions in the skeleton are usually associated, as consequences, great irregularities in the attachment of muscles.

12. These defects by omission are now and then—but only rarely—attended by supernumerary developments, scarcely ever by hypertrophies.

13. These cases ought, perhaps, to be correlated and contrasted with certain congenital hypertrophies, such as the "pes gigas" and overgrowth of the digits of the manus.

14. It would appear that these defects by omission stand wholly apart from cases of defective growth and development (short limbs, short digits, webbed fingers, and the like), which are often, or indeed usually, hereditary.

15. With absence of the thumb there is usually associated absence of trapezium and trapezoid, and often of scaphoid also. The ulna is always very short, but the humerus of nearly full length.

16. Now and then a rudimentary pedunculated thumb may be present, and it is even possible that with absence of the bones of the forearm the hand may yet be present.

NOTES ON THE INFLUENCE OF THE SEXUAL SYSTEM ON HEALTH.

No. I.—*On Pain in the Sphincter Ani* (*Proctalgia*).

Amongst the symptoms occasionally produced by sexual excitement in enfeebled states of the lumbar spine is a painful spasm, or cramp, of the sphincter ani. This may follow the sexual act, last a few minutes, and then disappear, or it may leave a more or less persistent aching in the part. A married gentleman of about 37 was sent to me by Dr. Hughlings Jackson on account of this condition. The patient himself insisted that he had spermatorrhœa, because he said his state varied so much, and was "like the description of the latter malady in Mr. Acton's book." Dr. Jackson was treating him for nervous exhaustion. He was a pale, weak-looking man, but appeared to be energetic and clear-headed. He said that often he was quite vigorous for a few days, and could take exercise without fatigue, and then suddenly, without obvious cause, he would rise in the morning unrefreshed and feel utterly exhausted. For six months or more he had avoided all intercourse with his wife, and as these attacks of depression of tone and spirits were just like what he used formerly to experience after indulgence, he thought that there must be some undetected loss of semen. He did not have nocturnal emissions oftener than once a month. The chief symptom for which he had been sent to me was pain in the perineum, "a peculiar, horrid twisting pain," just in front of the bowel, and not made worse either by defecation or micturition. There was not the least tenderness of the part, and I examined the rectum without detecting anything. The prostate was not tender. The pain referred to was not constant, but had troubled him at times for two

years or more, and had latterly become more fixed. He quite fell in with my suggestion that it was aggravated by any approach to sexual excitement, and volunteered the statement that in former years he had sometimes had it so severely immediately after intercourse as "to make him almost cry out." On these occasions it rarely lasted more than a few minutes, but sometimes he had been obliged to use cold water to the anus to get rid of it. The effect of intercourse he described as having been very variable, sometimes good, and at others, and more often, resulting in a few days of great lassitude. It was not what followed immediately, but what came afterwards that he had chiefly dreaded. He had not, he said, abstained solely on account of his own health, but because he had five children and did not wish for more. Sometimes, in addition to the aching in front of the anus, he had the same also about the urethra, just behind the scrotum. The effect of a long holiday, two months on the continent with his wife, had been tried, and had done him no good.

It is difficult in such cases as this to say whether the aching pain is caused by muscular spasm or by turgid veins. The acute pain attended by "twisting" is in all probability muscular, but the persistent ache may possibly be venous; the acute "twisting" is usually around the anus, but the ache is in front of it. It is quite possible that other muscles, the accelerators or compressors, for instance, may sometimes be involved in pain.

It is also a matter of great difficulty, in such cases, to know how to advise the patient for the best as regards intercourse. If he indulges, he produces the pain and exhaustion; and if he abstains, he becomes liable to excitement, which is almost equally prejudicial. In the present instance I advised absolute abstinence, both in act and thought, and my patient told me that his experience had convinced him that this was sound counsel.

I well recollect a case in which a gentleman, who appeared to be in excellent health, suffered from this perineal aching for a long time. He was absent from his wife for two or three months, and got quite rid of it. On returning to her, a single

act of intercourse brought it back, and he suffered uninterruptedly for two months—possibly for longer, for, not being able to relieve it, I lost sight of him.*

No. II.—*On Sexual Excitability in connection with loss of General Vigour and Tone.*

It is of importance to note that sexual excitability is frequently quite out of ratio with the general vigour of the nervous system. Further it may, I think, be asserted that it is often induced by circumstances which lower the nervous tone. In a state of high tone the organism has various other sources of pleasurable excitement which compete with, and often very successfully, those offered by the sexual sensations. On the other hand, a man in a low, desponding state, is often, from sheer want of other sources of interest, left comparatively at the mercy of the least intellectual of his appetites. There may be other and more simple reflex causes for the fact that a man under the influence of anxiety, or of physical depression, experiences an increase of sexual excitement, and finds greater difficulty in controlling it. It is exceedingly difficult under such circumstances to tell which is cause and which effect. A man may come to you and complain of frequent excitement and nocturnal emissions, with their usual consequences, which he may attribute to some mental worry, but it may be all the while the fact that it was an attack of sexual irritability which lowered his tone and made him feel as worry what under other circumstances he would have taken no notice of. A gentleman of about five-and-forty, long married, and the father of a family, consulted me for symptoms which I attributed to his sexual system—occipital op-

* Charcot writes, after mentioning Satyriasis and bladder-disturbance as frequent in locomotor ataxy: "The rectum may also be the seat of curious symptoms. We recall here the case of Mr. C——, of whom we have already spoken. Prior even to the appearance of lightning pains, he used to feel from time to time, and often quite suddenly, a sensation in the rectum which he compared to the forced introduction of some long and voluminous body into the bowel. With this sensation came the necessity to evacuate, which resulted on several occasions in the involuntary escape of fæces. This kind of painful spasm of the intestine had existed nearly eight months before the pains in the limbs declared themselves" (vol. ii. p. 55).

pression, cold extremities, and low mental tone. I made him take a long sea voyage, and gave him the usual cautions. He lost his headaches, took to fox-hunting, and got into good health, still, however, feeling the necessity for great restraint in sexual matters. Two years ago he took a long voyage for purposes of business, and returned to his wife after a six weeks' absence in excellent health. On his arrival at home, business news awaited him which caused him considerable anxiety. Within a week he began to suffer from a distressing weight at the pit of the stomach, and when this left him, from his old symptom of oppressive fulness in back of head and tightness across the forehead. His abdominal uneasiness passed off under treatment, but his head disturbed him so much, that a month after his return home he came to me for further advice. He was a sensible man, and told me at once that his headache was, he thought, caused by frequent erections and occasional emissions at night. To me, however, the most interesting point was that he attributed this sexual irritability to his mental anxiety. It may have been, however, that the converse was the case, and that his return to his wife after a long absence had induced sexual irritability, and this had lowered his nerve tone and caused him to feel his worry. Whatever the line of concatenation may have been, we may use the case as one which is beyond dispute as to the precise character of the symptoms produced when sexual irritability injuriously affects the nervous system. They were sense of weight and fulness in the back of the head, tightness and constriction across the forehead, a musca before one eye, cold extremities, and inaptitude for business and social duties. I inquired if the spirits were low. "No," he replied, "it has not come to that yet, but if it goes on it will. On former occasions, after these attacks have lasted for a time I have been horribly depressed."

No. III.—*On Sexual Excesses as a cause of Tabes dorsalis.*

I cannot adduce a better illustration of ataxy in connection with the excesses of married life than that of a gentleman

who was sent to me by a medical friend on account of his bladder troubles. He was sixty-one years of age, and his spinal symptoms had been in progress for twenty years. He was a very intelligent man, and told me with the utmost candour his whole history. He had never had syphilis. At the time that I saw him his knee reflexes were quite lost, and his pupils motionless on exposure. He was just able to walk, but only very slowly. For fifteen years he had been entirely dependent upon the catheter, never voiding a teaspoonful of urine without it. His bladder gave him no trouble, and he said that he could hold his water thirty hours if he liked. For six or seven years he had never experienced any sexual desire, and the function had been gradually failing for a much longer period. Thus it will be noted that his condition was in some respects that of an advanced stage of the disease. His case was, however, one of those in which it not only appeared to have been arrested, but some very definite improvement had been noted. There was a time when, as he told me, he could scarcely walk, and when the slightest loss of balance entailed a fall. He had at one time been unable to use his hands, and required assistance to button his clothes, whereas now he could do everything with them readily. For a time it had been needful to help him into his carriage, but now he could walk several miles if time were allowed him. He had also almost wholly lost the lightning and grinding pains in his legs, which at one time were his torment. My suggestion as to the cause of this arrest and improvement is that they were due to the absolute abeyance of the sexual system, which was reached about six years ago.

A question at once elicited from Mr. B—— the candid avowal that he had always thought that his spinal symptoms were due to marital over-indulgence. Another led to the admission that he had masturbated in excess in boyhood, and that he had acquired the habit very early. Before marriage he had been moderate with women, but after it he had, to use his own expression, been far too fond of his wife. He married at thirty a lady much younger than himself. Three years after marriage his health completely broke down, and he suffered so much from brain irritability and exhaustion that

he was sent from home to New Zealand, and did not return to business for three years. He never suffered much from actual headache, but had distressful feelings in his head, and a sensation as if his forehead were nipped in by an iron band. After his long rest he recovered, and returned to very active business. Gradually the ataxic symptoms developed themselves. He continued to live with his wife, and five children were born. The treatment to which he was subjected, electrical, hydropathic, and other, was often excessive, and did him far more harm than good. For several years, as already stated, the pains in his lower limbs were dreadfully severe. For a long time, he told me, his pulse never counted less than a hundred, and he was repeatedly told that it was like a thread. All his extremities were at times cold and numb, and at one time his failure of memory was such that he could not keep in mind the days of the week. Yet through all this suffering, with occasional prolonged rests, Mr. B—— had kept to a highly responsible position as head of an insurance office. Amongst the symptoms which had been wholly absent were the girdle sensation, proctalgia, and gastric crises. With these exceptions the whole cycle of ataxic phenomena had been displayed. As already stated, about the time that the last embers of the sexual fire died out, his condition began to improve. When I saw him he was in very fair health, able in a shuffling walk to go a considerable distance, and not suffering from anything which appeared likely to shorten his life. Fifteen years' constant practice with the catheter had given him skill and confidence, and his bladder, as he said, gave him "no trouble whatever."

I have nothing to record as to the sequel of the above case, as I saw the patient but once for a special object, and heard no more of him.

My suggestion as to the causes of ataxy is that it and several other chronic affections of the nervous system are usually a joint result of syphilis as a predisponent, and sexual excesses as an excitant. In some cases the one, and in some the other cause, takes the principal share. In some, as in the above, syphilis is wholly absent.

(To be continued.)

CASE OF RAYNAUD'S DISEASE WITH ACRO-SPHACELUS.

I HAVE to relate a very remarkable case illustrating the connection between the liability to "dead fingers" and the occurrence of symmetrical gangrene of their ends. It further shows us in the most definite manner how a form of gangrene consequent upon defective blood supply, and in the first instance definitely dry, may, under certain conditions, inflame and become attended with swelling and moist exudation.

Mrs. P——, a lady of 64, was sent to me by Dr. Carter, of Bath, in March, 1884. She was of pale, earthy complexion, and I was told she had recently suffered a heavy domestic bereavement. She asserted, however, that through life she had enjoyed, in a general way, excellent health. She had been neither gouty nor bilious. For many years she had been a total abstainer from all stimulants. She had all her life suffered from cold extremities, but until the last year or two she had always used cold water for washing her hands, and had never taken any special precautions as regards her clothing.

The complaint for which Mrs. P—— came to me was spreading gangrene of the right forefinger. The finger was much swollen, of a dusky red colour up to the knuckle, and at its end livid and gangrenous. It was suppurating at the edge of the slough, and there was considerable unhealthy discharge and some fetor. Mrs. P——'s account was that it had begun to get worse last December, that is about ten weeks ago, when a blister formed at the end of the digit. This blister was incised, the skin beneath it was found hard like wood or horn; after the incision it got worse; the spreading gangrene had, however, been present only about three weeks when I saw her.

The finger had been very painful, and both hot and cold applications made it unbearable. It was most comfortable when freely exposed to the air. I noticed that the finger-tip of the adjacent finger was puckered and the nail discoloured, and she then showed me her other hand, on which the same two fingers were affected in a similar manner. In both of them there had been dry gangrene of a small bit of the pulp of the finger at its very end. This had now healed, leaving the finger end puckered and its nail much curved, fibrous and discoloured. I next ascertained that on the left hand, the one not involved in the acute gangrene, the index and middle fingers were very much colder than the ring and little fingers. They looked paler and were slightly dusky. The difference to the eye was not very conspicuous, but to the touch it was very marked. I had not a suitable thermometer with me at the time, but judging from cases in which I have measured it accurately, I should think these fingers were at least five degrees colder than their fellows.

Mrs. P—— was quite aware of this, and told me that they had for long been so, and that this pair of fingers on each hand had been liable for at least two years to become "dead" in the morning after washing. When in this condition they used to ache a good deal, but "not enough to care about." It was in May, 1883, after an open winter followed by a very cold Easter, that the sloughing of the finger tips occurred. The finger-nails of all four fingers became, as she described it, dusky and discoloured; brown lines formed at their edges, and next little black sloughs developed at the extremity of the pulp.

Thus, then, we have a distinct history of the daily recurrence of the phenomena of the *digitus mortuus* in two fingers of each hand during a period of a year, and, at the end of this time, of the occurrence of gangrenous spots at the extremities of them all. After the healing of the gangrenous sores during the summer, the same fingers remained for another year colder than the others, and liable to "die" every morning. Then in the next winter one of them again becomes gangrenous at the tip, and on this occasion the whole finger is involved in inflammatory gangrene. The thumb, the ring and

little fingers have throughout been wholly exempt. There is certainly nothing to surprise us in the fact that digits so definitely and constantly liable to "die" should in the end take on gangrene, and we may note that this occurred exactly at the time of year at which it might be expected.

The problem we have to solve is, Why should the index and middle fingers be more prone to chill than the others? I cannot think of anything as regards nerve supply which would in the least explain it, and its symmetry is also a point to some extent incompatible with the diagnosis of nerve causation. On the other hand, it is possible that the arterial supply to these fingers is in some respects less direct than that of the others, the thumb receiving its blood in an almost straight course from the radial and the little and ring fingers in an equally straight course from the ulna, whilst the index and middle finger are fed from vessels given off obliquely, or even at an angle. It is impossible, however, to attach much importance to this. There was no proof in Mrs. P——'s case of the existence of either cardiac or arterial disease. Her pulse was small, irritable, and soft, not less than 110 in a minute, and very compressible. I could not discover any proof of calcareous degeneration of the arterial coats. There was no valvular disease of the heart.

In inquiring carefully as to whether Mrs. P—— had had any other peculiarities of health, she told me that she had been liable for thirty-five years, indeed ever since her confinement, to attacks of very violent pain in her back. She described it as situated in the lower dorsal region, and said that she could only relieve it by the repeated application of mustard plasters. Her last and severest attack of this pain had occurred in November, 1883, and had kept her in bed for a fortnight. There did not appear any reason for connecting these attacks with the kidney.

The following is a report up to date by Dr. Carter, under whose care the patient is, and who has kindly supplied me with information as to the subsequent progress. My notes were written in 1884, and Dr. Carter's report in December, 1891 :—

"The gangrene in Mrs. P——'s fingers continued more or less during all that winter, in the forefinger of the right hand so much so that it became necessary

to amputate it at the head of the metacarpal bone. There was scarcely any bleeding, and the wound healed up slowly, and has not given any trouble since. The middle digit (right hand) became also much inflamed, and there was some fear whether it may not be necessary to remove that too. As the warm weather returned, the digital circulation improved and the fingers recovered. The following winter small patches of gangrene appeared by the nails, especially on the inner or radial side of the fingers; since that time there has been no actual gangrene, but palor, coldness, and painful tingling in the fingers during the winter. Her health, however, has been fairly good the last few winters."

The cases in which what are known as Raynaud's phenomena are present divide themselves into several groups. In the one to which the present case belongs the influence of weather and season is very definitely marked. The partnership-causation which it illustrates appears to be—firstly, a congenital feebleness of circulation; secondly, an increase of this in connection with senility and depressing emotion; thirdly, an injudicious abstinence from stimulants; and, fourthly, the temporary effect of external cold during winter.

ON TISSUE-DOTAGE.

I HAVE mentioned repeatedly in ARCHIVES * cases illustrating the proneness of the senile skin to develope papillomata and various forms of malignant growth. Cases have also been adduced illustrating a peculiar tendency to freckles in old persons, attended often with the adjacent development of cancer. In some cases the multiplicity of the malignant growths and the peculiarity and abundance of the freckles is such as to suggest a question whether we may not have, in old age, something analogous to Kaposi's Disease in the young. We know that old persons have a sort of second childhood in reference to various other diseases, notably, as Paget has taught us, to Scrofula.†

We may, perhaps, without adopting a too fanciful phraseology, speak of these tendencies as a Dotage of the Tissues. It would really appear that the laws of nutrition do permit structures in old age to take on modes of growth similar to those displayed in very early life. They are not quite the same, being stamped with certain peculiarities, but they are still similar. In what we may call general dotage of intellect, the character loses its vigour, and ceases to be able to direct itself to large purposes. The more important pursuits of life

* *See* Vol. II. p. 218, *et seq.*

† In my early professional life I was a pupil of Sir James Paget's in a stronger sense than those words necessarily imply. I had the honour of his friendship, and enjoyed many opportunities for becoming acquainted with his views on pathological subjects. The result has been that I now often feel in doubt as to whether I am developing thoughts of my own or those of my teacher. In the present instance, and indeed in almost all similar ones, I believe I may feel confident that, to say the least, the germs of the thoughts are from him. At the same time I have no right to make him in any way responsible for the development of details.

fail to interest, and the mind allows itself to be absorbed—amused or distressed, as the case may be—with mere trifles. The man foregoes his proper relation with the external world, just as in infancy he had not yet assumed it.*

Now, in the early periods of the body's development we observe the facility with which fragments of tissue take on individual and erratic growth. Nævi and the various forms of mole are formed. These, although usually, perhaps, present before birth, may continue to increase, or even appear to originate, during considerable periods after that event. So also the young child is liable to various other aberrations of local growth. The face and arms may become covered with brown pigment patches, or the hands with warts. If the weather is cold, chilblains may form. As a rule, the liability to all these greatly diminishes, if it does not cease, when the body attains its growth and the reproductive function comes into vigour. The organism now appears to be capable of controlling all local processes for the general good. In old age, however, this power of control appears to be again relaxed, and local growths are again permitted. We may with probability believe that these senile new growths are usually developed in structures which have been present from childhood. Often, perhaps, they take origin in parts which have been temporarily diseased in childhood. The senile freckles are probably produced in spots of pigment which have remained over from the freckles of youth. This, however, is not invariable, and many forms of papilloma and of nævus which appear in old age occur to those in whom there was no evidence of their presence in youth.†

I would venture to mention the following as examples of changes in tissues due to dotage, premising that I include

* Let it be clearly understood that tissue-dotage, as it concerns the skin and viscera, has no essential connection with intellectual dotage. The one may often be present without the other. The former is sometimes almost restricted in its effects to one set of organs or tissues, though more usually general.

† Although closely related, we must not consider dotage quite identical with senility. The former term is applicable chiefly to reversions to the habits and liabilities of childhood in connection with old age. Senility includes dotage and much more, whilst dotage is not an essential part of it. Many old persons never experience much tendency to dotage either as regards intellect or tissue-nutrition.

under that term all local changes to which old age as such predisposes :—

Senile papillomata.—Often very abundant on the shoulders, neck, and face.

Senile Nævi.—These are often seen on the face, lips, tongue, or trunk. They are usually venous.

Senile forms of Acne.—In the main varieties of what is known as Acne rosacea. Rhinophyma, the final result of Acne tuberosum, often partakes of the nature of a dotage-growth.

Sebaceous gland hypertrophies.—Of these, common wens with their secondary changes are examples. They are not, however, by any means the only ones.

Stigmata.

Freckles.

Development of cancer in connection with freckles, as in Kaposi's Disease epithelial growths occur in connection with previous pigmentation.

A recurrence of liability to chilblains.—This, I admit, is very rare.

Liability to Lupus.—I have now three patients under care in whom Lupus vulgaris has begun after the age of sixty.

Liability to Scrofula.—This was many years ago pointed out by Sir James Paget. It implies, perhaps, that the tissues again afford a suitable nidus for the life of the tubercle bacillus.

Liability to warts on the hands, &c.—This is seen occasionally in those who follow occupations attended by exposure to irritants.

All these local aberrations of nutritive processes, which are common in youth and may recur in old age, have, when they are present in the latter, the remarkable and most melancholy peculiarity of a tendency to take on infective, or, to use another word, cancerous, peculiarities. I will now proceed to narrate some cases illustrating the theories which I have ventured to suggest.*

* It is no real objection to the theory of tissue-dotage to allege that most of the affections claimed as examples of it may be met with also in middle periods of life, or may be continued without break from childhood to old age. Similar phenomena may occasionally be observed in the mental states to which the term Dotage is applicable. There are those who never wholly escape from childhood, and many more in whom the duration of manhood is but brief.

CASES ILLUSTRATING THE OCCURRENCE OF MULTIPLE PAPILLOMATA, STIGMATA, FRECKLES, AND CANCEROUS GROWTHS ON THE SKIN IN OLD PERSONS.

CASE I.—*Multiple Rodent Cancer in an elderly man with remarkable tendency to Freckles.*

A case which may serve as an illustration of the above remarks, is that of a gentleman from Cumberland who has been under my observation for several years past. He came, in the first instance, on account of a patch of rodent cancer on one side of his nose. This I destroyed by the actual cautery, and it healed well. Subsequently, however, other similar ulcers formed on different parts of his face, on the cheeks, temples, &c. Two of these were destroyed by the cautery, by his own medical attendant in Carlisle. For a third he has recently consulted me, and I have advised recurrence to the same measure. A noteworthy feature in his case is, that although the ulcers are well characterized as rodent, having the rolled edge, &c., they are more than usually amenable to treatment. The sores left by the cauterization heal well and the scars remain sound. The disease returns not, as is so common, in the edge of the scar, but at some more or less distant part. Now the subject of this peculiar tendency to skin-cancer is a gentleman of sixty-three, of a complexion as fair and florid as that of a young child. His skin is thin and transparent, and whilst his cheeks are as rosy as an apple, he shows many and large freckles on his eyelids and especially on his neck. He tells me that his skin has always been somewhat easily irritated by exposure, and that in childhood he was very prone to freckles.

CASE II.—*Rodent Cancer on one cheek with tendency to multiple developments on other parts of the face.*

I have also at present under care another case illustrating, though in a far less definite manner, the same laws. General G—— is about sixty years of age, very florid, and of a beautifully clear skin. We have had a great deal of trouble with a patch of very superficial rodent on the left cheek. This I have cauterized repeatedly, and the disease always

returns. The important fact in his case is that he has on his neck, temple, and forehead, other little rough and papillary patches which threaten to pass into the same disease.

Cases like this are, however, by no means very rare. If rodent cancer begins in a person of middle age, it will probably be single, but if in one of decidedly senile skin, the chances are considerable that some tendency to it may be evinced at various parts. It is by no means very important in really old persons to resort to radical measures for all spots on the face which threaten to become rodent cancer. In them the pre-cancerous processes are often very slow, and it may be sufficient to use emollients, and to forbid scratching. In younger patients our remedies cannot be too vigorous or too prompt.

CASE III.—*Senile Freckles.*

Mr. A——, aged sixty-four, a gentleman of dark, sallow complexion, is the subject of quite black freckles on both lower eyelids. He says that he has noticed them for several years. They are arranged in groups, and some of them are slightly papillary.

CASE IV.—*A case showing infective extension of brown stains (Freckles) over the cheek and upon the ocular conjunctiva —Not symmetrical.*

The case of Mrs. P——, a lady of about sixty, whom I first saw in consultation with Dr. Payne, is one of exceptional interest as regards the approach of senile freckles to melanosis. In her the black staining is most clearly infective, for it has spread from the lower eyelid, in the skin of which it began, to the palpebral mucous membrane, and even to that of the eyeball. In the latter positions there is scarcely any thickening, but the mucous membrane is stained of a deep brown bistre tint. It is not of the sepia blackness which the skin of the eyelid presents. The colour passes upwards even to some extent over the lower margin of the cornea. It stains most remarkably the lowest part of the arcus senilis.

This case is a very remarkable one. The pigmentation is extensive only on the right side. On the left there are a few

freckles but no large patches. I have now watched the course of the disease for nearly two years, during which time, although there has been some extension, there has been no other material change. Little or no tendency to papillary growth or to ulceration has been shown. The patient is herself exceedingly anxious as to whether the changes will end in cancer. The case most closely similar to hers which I have seen, was that of an elderly gentleman, on whose lower eyelid a growth of epithelial cancer did finally develop. I excised this latter very freely three years ago, and I believe that there has been no return either in the scar or the glands. This case I will now relate.

Case V.—*A large infective pigment patch on one cheek resembling superficial Melanosis—Epithelial Cancer on the edge of eyelid—Not symmetrical.*

My patient was Sir A. D—— (æt. 56), then residing at Tunbridge Wells. On his left cheek, about an inch below the edge of the eyelid, was a large black stain. It was not attended by any material thickening of the skin, and showed no papillary growth whatever. His statement and that of his wife differed a good deal as to how long it had been present, but it was certain it had been there more or less for a good many years, and that it had of late been increasing. It was certain, also, that no obvious mole had existed in that position in childhood. It was very conspicuous, and involved the whole of the upper half of the cheek, not in one continuous patch, but in a number of separate spots, many of them confluent. There were none on the other cheek. This patient did not come to me on account of the black stains, of which he made no account, but because an ugly ulcer had during the last few months developed above the black patch, close on the edge of the eyelid. This ulcer presented a sprouting growth a quarter of an inch in height, and covered by a crust. It was not in the least like rodent, nor did it present the beehive-like induration at its base, which characterizes the crateriform ulcer. Having no doubt that this ulcer was malignant, and noting its close juxtaposition with the blue-black stains, I

was inclined to suspect that the latter were of a melanotic character, and that the fungating growth, which was not in the least pigmented, would prove to be sarcoma and not epithelial. To excise the whole of the black stains would have been to take away the greater part of his cheek, and as he asserted that these had been present for many years and had remained quite quiet, such an operation was not to be thought of. I advised, however, that the fungating growth should alone be removed. In offering this advice, I had much misgiving as to its being but a very incomplete procedure. The operation was performed, a V-shaped portion from the middle of the lower eyelid being excised. It was so wide that I could not make any attempt to bring the parts together. On examination of sections of the growth, they proved to be characteristic of epithelial cancer. Mr. W. H. Rix, of Tunbridge Wells, and his brother were good enough to assist me in the operation, and to take charge of the patient afterwards. He recovered well, and the parts healed with less of deformity than we had feared. I have no reason to believe that there has been any return of disease, or that the pigment changes have developed more malignant characters, but I have been unable to obtain recent information.

CASE VI.—*Senile Freckles conspicuous on both cheeks—Epithelial Cancer on one.*

Another case came under notice within a month of my seeing the preceding. Its subject was a lady, Mrs. P. L——, who was sent to me by Dr. Dobie, of Chester. In her the recent growth, which was quite without pigment, closely resembled rodent ulcer, and my only difficulty in diagnosis concerning it was whether it was really rodent, or a little spot of keloid consequent on the vigorous cauterization and scraping which had already been practised. The interest in the case, however, lay in the fact that this epithelial growth was close to some black pigment stains exactly like those which were present in the other cases. These stains had been forming for several years, and Mrs. L—— called them "freckles" and thought nothing of them. They were, however, not brown like ordinary freckles, but of a blue-black

tint, and were attended by a slight degree of thickening of the skin, though without any real papillary growth. They were arranged, as in the other case, in groups of spots immediately under the lower eyelid. Some similar black stains, but as yet in a much earlier stage, were beginning to develope on the other cheek in the same position.

I do not suppose that more can be said as to the connection between the black stains and the development of epithelial cancer near to them, which these two cases illustrate, than that both the changes were indicative of senile disturbance of nutrition. The black stains were probably not positively sarcomatous, and in each instance the epitheliomatous ulcer was quite without pigment. Yet it remains a very remarkable fact, as seeming to imply some connection between the two conditions, that in each instance the epitheliomatous ulcer developed in close proximity to the black stain. In neither case was it, however, exactly on it. I have not as yet, in any of the three or four cases which I have seen, had an opportunity of obtaining a portion of the pigmented skin for microscopic examination.

CASE VII.—*Papillary Growths on the Neck and Face in two Senile Sisters.*

I have published (see p. 57, ARCHIVES, Vol. III.) the case of a Miss McL—— (æt. 55), who presented a large crop of papillary growths on her neck and shoulders. To-day (Oct. 29) a sister of hers, Mrs. R——, has called on me on account of a precisely similar state of things. She is three or four years younger than Miss McL——. Minute warts occur all over the sides of her neck. On her face some have attained a larger growth, and have become blackened by dirt, which cannot be removed. Mrs. R—— tells me that her sister has got quite rid of her crop by the use of the acid nitrate of mercury which I prescribed. There is a strong family history of cancer. Both sisters had clear skins until reaching the beginning of senility.

(*To be concluded.*)

ON LIABILITY TO RECURRENT PAROTITIS WITH XEROSTOMIA.

(*Two cases.*)

CASE I.—*Liability during twenty years to recurring parotitis possibly of a catarrhal nature — Xerostomia—Recurrent pustular Ophthalmia.*

A VERY remarkable example of what might be called recurrent mumps, or long-continued liability to swelling of the parotid glands, came under my observation in the person of a lady aged 52, on July 29, 1890, who was sent to me by Dr. Ferguson, of Richmond. Miss M—— had suffered from this condition for twenty years, and latterly (during the last four) she had been liable also to an alternating form of pustular ophthalmia. The parotids were so large when she came to me as to be quite conspicuous. She suffered also greatly from the inconvenience of dry-mouth, and stated that taking exercise always had the effect of arresting the flow of saliva. If she took a brisk walk her mouth would become quite dry. Sometimes during rest after exercise there would be a sudden flow of saliva. In addition to these frequently recurring phenomena of arrest of secretion, she was liable to attacks (one every few months) during which the glands became greatly swollen. These attacks were attended by a feeling of aching all over and much malaise. She thought that they were usually brought on by exposure to cold air, and she considered them as "rheumatic." Dr. Ferguson's expression respecting the swelling when at its height was that it was "enormous." On the subsidence of the attack the patient was left weak and depressed, and the glands still remained considerably larger than normal. A journey or any unusual

fatigue was almost certain to bring on an attack. The mouth, which was always more or less dry, became quite so during the attacks, and the tongue red, clean, and glazed. Sometimes the attacks did not wholly subside for months together, and minor relapses would occur from day to day. Thus she might go to bed feeling quite comfortable, and get up with her glands swollen. In the more chronic conditions as she described it, there was "a feeling as if the saliva would not flow," and she had to rub the glands to relieve them. Aching in the fingers almost constantly came with the attacks, and, as I have said, she considered them to be rheumatic. She had never herself had any definite attack of rheumatism, but her sister had suffered from it, and her mother from rheumatic gout and her grandfather from gout. The left side of her mouth was always more dry than the other. She was always obliged to sip fluid with her meals on account of the xerostomia. She was always more comfortable after a meal, as it appeared to favour the flow of saliva. Miss M—— had travelled in various places, and had not experienced any difference from climate as regards her peculiar symptoms. She was thin, and of a somewhat faded-leaf complexion. She considered that she had never been strong, and she knew that in childhood she had suffered from a severe attack of mumps. There was, however, between this attack of mumps and the first of her present affection an interval of sixteen years. Her first attack of the recurring parotitis was at the age of twenty-six. She had been arranging some Christmas decorations in a cold church, and on returing home found herself chilly, and at dinner could not eat on account of the swelling of her face. She had on this occasion a sharp febrile illness, and on recovery from it a year elapsed before she had another attack. In childhood she had been liable to chilblains; but on attaining adult age these had ceased, but her fingers had become very liable to die. She was very prone to chills, and to suffer as a consequence from the ordinary form of nasal catarrh, which would sometimes pass to her throat and chest. On account of this liability she was obliged to be always very careful not to excite perspiration. When I first saw Miss M—— she was just recovering from a sharp attack, previous

to which she had enjoyed the unusually long interval of a full year.

My prescription was tincture of Jaborandi in drachm doses. I saw her for a second time on Oct. 10, 1890, when I made the following note:—

Oct. 10, 1890.—Miss M——. Her mouth is sticky, but there is free flow of saliva in right buccal pouch; much less on left side. She thinks that the medicine has made her warmer. She is very prone to take cold in her head, and to have the attack pass to her chest.

At Buxton (five weeks) she walked a little. During walking she gets hot *all at once*, and breaks into perspiration. Her eyes present a sort of chronic pustular ophthalmia. This was at first called rheumatism. Her first attack was four years ago. They are always weak, but get stronger when the parotids swell.

Case II.—*Liability to recurring attacks of swelling of the parotids in association with polyuria, and relieved by taking food and fluid.*

Another instance of liability to swelling of the parotids came under my notice in the person of Mrs. K——. This lady, who was 54 years of age, and had been under my care for three years, at intervals, on account of severe after-pains of herpes frontalis, told me that she had been for two years liable, when fatigued, to swelling of the parotids. The swelling does not go down till she takes food. It comes when she has been walking, or when she has been bothered, and may be present several times a day. It is attended by visible swelling and much discomfort. She also has a very irritable bladder, which always relapses with the parotid swelling.

Mrs. K—— had had mumps at 14 rather severely. The swelling of the parotids in this instance always occurred under conditions which might be likely to disturb the nerve balance, and possibly to cause dry mouth. Indeed Mrs. K—— thought that her mouth was usually very dry when it was present. A meal, especially with wine, always relieved it. This was so marked that Mrs K——'s daughter used to remark, "Now you have got your German face," and during the meal would

laugh and say, "Now your English face is coming back." This coincidence of profuse polyuria is interesting, and may suggest the possibility that a sudden taking away of fluid from the blood by the kidneys may compete with the secretion of saliva. Under such competition it might be possible for the salivary glands to become engorged without relief by secretion. The liability to polyuria and transitory mumps usually lasted several days at a time, and would then pass away for a week or two. When present, Mrs. K—— was often annoyed by having to get up four or five times in the night, and voiding an enormous quantity.

It will be seen that in both these cases the patients were women. This corresponds with observations as to xerostomia, all the examples of which, as yet recorded, have occurred, I believe, in the female sex. I have no doubt that the two maladies are related, being at any rate both of them examples of functional disturbance of the salivary secretion under the influence of the nervous system.

GYNÆCOMAZIA AND OTHER ABERRATIONS IN THE DEVELOPMENT OF SEX.

A VERY ugly stereographic portrait which I had taken many years ago at the Metropolitan Free Hospital represents a naked man who was very fat, and had breasts almost like those of a woman. He had no hair about his face, and his testes and penis were much smaller than usual. The pubic hair was present, but scanty. His expression was dull and heavy, and his mental powers decidedly below the average. He was thirty years of age, and so far as I could gather from his stupid and very reluctant replies to my questions, I believe that he had always avoided the society of women. His fat was distributed pretty evenly, though in a somewhat lumpy fashion, over the whole trunk and upper parts of all the limbs, neck, and face. It entirely destroyed all grace of outline. He looked neither like a man nor a woman.

It is nearly thirty years since the photograph described above was taken, and I have not seen another example of the condition until a few months ago. In September last a woman, who is herself the subject of Acromegaly, brought her son to me with the statement, "he has breasts as large as mine." The lad was only fifteen years of age, but looked like a full-grown man. He was enormously fat in all parts, limbs, body and face. He was rubicund and in good health, but without a trace of hair on his face. Had his hair been dressed like that of a girl, he would have looked like one. His forehead was small, and his intelligence very decidedly below the average. It had been found difficult to teach him anything, but he was fond of play, and clever at rabbit-hunting with ferrets, which was his favourite pursuit. His manners were shy, like those of a girl, but without feminine grace. I found his mother's

statement as to his condition of gynæcomazia quite correct. His breasts were as large as those of a well-developed young woman, and had fairly large nipples. They had not, however, quite the rotundity of female breasts but were more pointed, and it was difficult to distinguish the glands themselves from the fat in which they were embedded. The penis, scrotum, and testicles were extremely small, the latter not bigger than small acorns. There was very little hair on the pubes. He was very unwilling to be exposed, and behaved just like a girl, holding his hand before the parts with an expression of modesty which I never saw in a boy or man.

It should be stated that this lad is the son of a very large-boned and somewhat unfeminine mother, who has for many years been the subject of acromegaly. His father is dead. He is an only child.

We have in this case the following phenomena :—Defective intellect and a small head ; arrest of development of the sexual organs ; absence of male sexual hair on face ; feminine development of the mammary glands ; premature attainment of growth ; enormous accumulation of fat ; a demeanour not characteristic of either sex, but inclining to that of a female.

It is exceedingly difficult to determine where we ought to begin in the attempt to understand the mutual relationship of these various conditions. I am inclined to think that the failure was primarily in the brain itself. At any rate I do not think that it would be safe to attribute the over-development of the feminine glands to the arrest of that of the testes. The two were more probably the result of a common cause. I have seen several cases in which the arrest of growth of the male sex-organs was much more complete than in either of these two cases, yet without any tendency to gynæcomazia.

The reader may find at page 335 of Archives, Vol. I., the narrative of a most remarkable case, in which a young man passed through a long illness characterized by very high temperatures and a sort of erythema nodosum. Subsequently he had proptosis of one eye, from which he recovered. My narrative ended with February, 1890. Since then this young man has had other illnesses of very difficult explana-

tion. In one of them one knee-joint suppurated. After this he became maniacal, and had to be secluded in Bethlem Hospital. He is now again in fair health, both mental and bodily. My reason for mentioning his case now is that he has recently developed a marked condition of gynæcomazia. Both breasts have become large and pendulous. This is no doubt in connection with the disturbance of his cerebral health, and very possibly in association with suspension of virility.

In reference to the occurrence of an enormous development of fat in early life, I have a strong impression that it is generally met with in association with feeble intellect and defective sexual organs. On this point I have availed myself of the large experience of my friend Dr. Langdon Down, who permits me to publish the following letter written in reply to my questions.

81, Harley Street, Cavendish Square, W.

My dear Hutchinson, *Nov.* 7, 1891.

A moderate amount of obesity, such as the Fat Boy of Pickwick, is not infrequent among feeble-minded boys and girls, but such extreme amounts as you describe are rare.

I have seen about six such patients, and they were all of the Cretinoid type.

I published one such case in the London Hospital Reports, 1864. The subject was a girl 25 years of age, 4 feet 4 inches high, who weighed 15 stone without her clothes. The other cases were two girls and three boys, but their obesity was not so extreme as in the case referred to above.

I saw last week the child of a Spanish gentleman, about four years of age remarkably fat, but as tall as a boy usually is at ten. The obesity, however, was not so extreme as that mentioned by you.

With kind regards,

I am, yours sincerely,

J. Langdon Down.

P.S.—All the cases above mentioned were feeble in mind.

At Normansfield we can never buy ready-made clothing for the boys, the ordinary relation of height to breadth being a departure in their case in favour of breadth.

Most surgeons are, I doubt not, familiar with certain cases which occur almost exclusively in neurotic women, in which swellings form, on each side, in the root of the neck. These swellings feel like very soft fatty tumours, but they are usually quite symmetrical, and they do not, like fatty tumours, grow indefinitely. They usually rise as quite visible elevations just

in front of the anterior border of the trapezius, and between it and the clavicle. They seldom look larger than a small fist, and they are so soft and ill-defined that they elude the fingers in any attempt to appreciate their size or boundaries by this means. Sir James Paget, in an interesting note regarding them, in his recently published "Studies in Old Case Books," appears to have been so impressed with their want of definition that he suggests that they are a form of localized myxœdema. In this I cannot agree, for it is sometimes quite possible to push them forwards on to the clavicle and to detect, by pressing them on it, a sort of lobulation, or at any rate a distinct boundary. If they are pressed directly downwards into the neck, they recede in such a manner that one almost doubts their existence. I am not aware that any one has recorded a dissection of them. I have seen a good many cases, and sometimes in ladies who were very unhappy about them and very willing to have anything attempted for their cure, but I have never felt justified in performing even an exploratory operation. My experience agrees with that of Sir James to the effect that they are almost exclusively an appanage of the female sex. I have just, however, had an opportunity of examining a very marked example of them in a man, and it is in connection with this case that I am induced now to refer to the subject.

Mr. B——, aged 74, exhibits a condition of well-preserved senility. He is still vigorous and active, but has of late had a good deal of anxiety and trouble. He has lived a good part of his life in India, and has been a widower for the last thirty years. The swellings at the root of his neck were in the first instance discovered by one of his daughters. He came to me on account of them, having already had the opinion of several other consultants, all of whom had dissuaded him from any operation. The swellings were quite symmetrical, that on the left side being, however, a little the larger. As he was not a fat man they were very easily examined. It was not difficult to feel confident that they were not immediately subcutaneous, but confined under a layer of loose fascia; and I could easily press them forward so as to hold their edges between the finger and the clavicle. The patient was under the impres-

sion that they varied in size at different times, and this is a statement which has been very confidently made to me in many other cases. When he was instructed to make a deep inspiration they almost entirely disappeared from view. A very remarkable point in this case is that the old gentleman had distinctly developed a condition of gynæcomazia. There were very marked swellings in the regions of his mammary glands, which hung with a certain degree of pendulosity like those of a woman. He did not seem much pleased that I should examine them, but admitted that he thought they had increased of late. It was impossible to isolate the mammary gland itself from the fat in which it was embedded. As regards subjective symptoms, this patient complained of a precisely similar class to those which women usually mention. He had aching in his neck and shoulders, and sometimes very definitely in the larynx itself. He thought that when the tumours were largest the aching was most. The tumours had been first noticed about eighteen months ago.

Sir James Paget's account of these tumours to which I have referred is, as all he writes, admirably graphic. He states that he has seen some ten or twelve examples of them, and that the growth never reached such size as could be deemed unsightly, or gave any serious trouble. He adds : " I think they have all been in women in adult life, many of whom were such as might be called neurotic, and had heavy aching pains in the swellings." When they are not symmetrical, as is usually the case, he thinks the left side takes the lead.

TWO CASES OF WELL-MARKED ARGYRIA FROM THE LOCAL USE OF NITRATE OF SILVER.

I HAVE during the last six months chanced to see two cases in which nitrate of silver staining of the whole skin had been developed as a result of the long-continued topical use of lunar caustic. As but very few observations of this occurrence are on record,* and as it implies a very important caution, not only as to diagnosis, but in reference to the too persevering use of this salt as an application to the throat, I think them worthy of publication. In my first case the very remarkable condition present had excited considerable interest in medical circles, and its subject had been shown at several of our metropolitan Societies. The patient was a man aged 63, whose skin, especially on the more exposed parts, was most conspicuously stained of the leaden-blue tint which characterizes what is known as argyria. It is sufficient that I should state that he had been most critically examined by many excellent observers, and that his case was considered to be a typical one of that malady, with the most important peculiarity that there was no history of his having ever taken the salt in question. His portrait had been executed, and his case was about to be published as an example of a new disease, when fortunately its real explanation was elicited. I had myself questioned him repeatedly as to whether he had ever taken any long course of drugs, and always encountered the same denial which had been given to others. Almost by accident (during a demonstration to a post-graduate class at the Embankment), he mentioned to me the fact that he had once, for a period of more than a year, been treated for sore mouth and sore throat

* Mr. B. J. Baron has published one such in the *British Medical Journal*, Vol. II. for 1887, p. 881. See also the *Medical Record* for 1888, p. 122.

by applications of caustic. On going into the details of this, it appeared to be quite clear that the staining of the skin had followed the treatment referred to. To the belief that the one was dependent on the other, my second case gives strong support.

The subject of my second case was a young man who came straight from one of our throat hospitals, with a clear history of the treatment which he had undergone, and there could not be any reasonable doubt as to the connection between cause and effect. He was a man of thirty-four, evidently of a most persevering character.

The staining involved the whole of his skin, and more or less all visible membranes. It was especially deep under his tongue and in the pouch between his lower lip and gums. His conjunctivæ were but little stained. The staining did not affect his trunk and limbs nearly so much as his face.

The history was that he had attended at one and the same hospital once or twice a week for six years. His ailment was superficial syphilitic sores on the sides of his tongue and cheeks, and these, he said, were regularly, at each of the visits during the period named, touched with lunar caustic. The silver-salt had never been given internally. He was a small man, of light weight, and had for long been more or less out-of-health. He was under the impression that his general health had improved since the application of the nitrate of silver was discontinued.

Apart from the interest of the special manner in which the salt was introduced in these cases, it may be suitable to mention a few particulars of the condition present. The subject of the first case was aged 63 when he came under my observation, and was a porter in wine-vaults. Excepting that he had suffered fourteen years ago from specific disease, and had subsequently been liable to sore throat and tongue, he had enjoyed good health. The peculiar tint of his skin had in the first instance attracted the notice of his employer, who remarked to him that he looked a bad colour, and as if he would not live long. This was eight years before I saw him. The discolouration was deepest on the most exposed parts, and especially on the face; the only exception to this was that the

helices of his ears were less deeply tinted than the conchæ. In the latter, the stain was of a deep leaden colour. It occurred to me that this might possibly be explained by the abundance of sebaceous glands in the concha, for it appeared that the staining took effect more especially round gland orifices. His gums, cheeks, and palate were all tinted, and so also his scalp. On the scalp the tint was deepest around the hair roots, and on the palate around the orifices of follicles, all the latter being picked out as slate-grey points. His hair was also tinted, and he averred concerning it that he felt sure that the tint changed from time to time. He also thought that the tint of his skin varied somewhat at different times, and that it was usually less dark first thing in the morning. During the eight years that he had suffered from the staining it had not shown any definite tendency to get either better or worse.

ON CANCER AND NEW GROWTHS.

(*Continued from p.* 59.)

Multiple Rodent Cancer of the Face—Commencement at the early age of thirty.

Mr. Waren Tay was good enough to send to me a remarkable example of multiple rodent on the face. The patient was a man aged 50. One of the growths had been excised by Dr. Watson fifteen years before, and this growth was on the left lower eyelid; so that the disease must have begun about the age of thirty. He knew of no history of malignant disease in the family, but he was the youngest of ten, and his father would be about sixty-five years of age at the time of his birth.

The conditions present were: On the left side of the face two separate growths of rodent, one involving the lower eyelid, and the other beneath the outer angle of the eyebrow. On the right side four or five different foci of growth, one on the upper lip, two on the side of the nose, and one close to the outer angle. On this side of the face there were several other small spots, very suspiciously like the earliest stage. In four, at least, of the places mentioned, the disease had assumed very characteristic conditions, and displayed very considerable thickness of growth. The growth tended to the lumpy and thickened type, rather than to that which is serpiginous.

My reason for recording in the above notes the age of the patient's father at the time of his birth is because the case illustrates what I believe is a general law, that the offspring of old parents are more prone than others to cancer. Thus the younger children in the family run more risk of in-

heriting this proclivity than the elder ones. Of this I have had recently many illustrations. If cancer shows itself at an unusually early period of life, or if it is multiple (both of which facts imply strong constitutional tendency), the subject is, I think, usually the child of elderly parents.

Cancer in early life in connection with Heredity.

A lady named S——, who consulted me in August, 1890, on account of epithelial cancer of the vulva, and who was under my care subsequently on account of recurrence of the same in the glands, affords an example of the development of malignant disease at an unusually early age, and in association with heredity. Her mother at the age of 60 had had her leg amputated by Mr. Howse on account of a large cancerous ulcer, and had subsequently died after an operation for the removal of the lymphatic glands. In Mrs. S—— (the daughter) the disease began at the age of 29. When I saw her on the second occasion, in 1891, there was extensive disease of the lymphatics, and she is probably not now living. The parts from which the primary disease had been excised remained sound. A leucomatous and papillary state of the vulva with intense irritation had preceded the final development of cancerous ulceration.

I quote the case in illustration of the general law that when malignant disease begins in young persons, it is almost always inherited.

Sebaceous Tumours of the Scalp ending in malignant disease.

A case recorded by Mr. Henry Ansell in the "Med. Chir. Trans.," 1842, Vol. XXV. p. 227, presents apparently a very interesting connecting link between malignant and innocent tumours. In three generations individuals had been the subjects of tumours on the scalp. In most cases the cysts had been extensively multiple, but in one, at least, single and large. There can be little doubt that almost all these were ordinary sebaceous tumours. In the patient herself they had been cut out repeatedly, both by Mr. Rose, at St. George's Hospital, and by Mr. Bryant, sen., in 1826. The latter gentleman

PLATE XC.

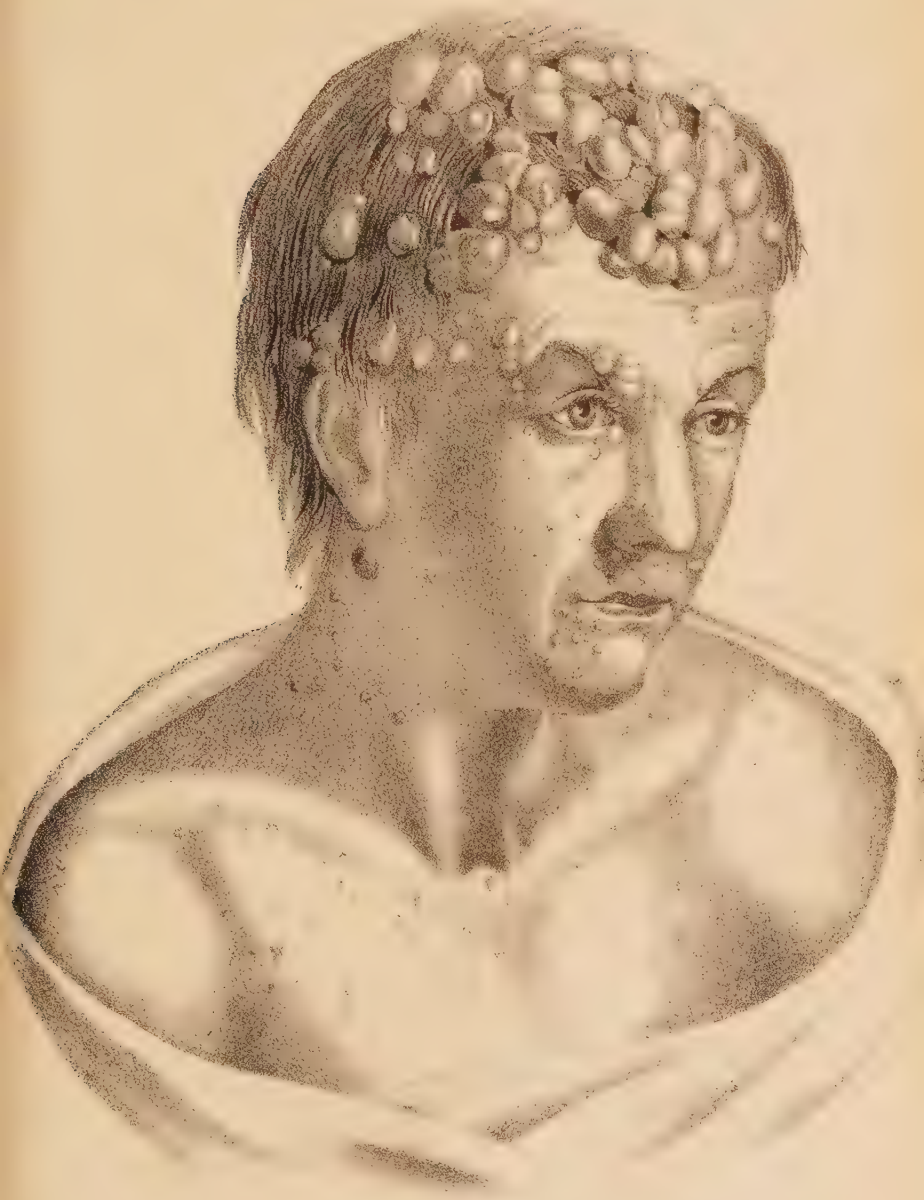
TUMOURS OF THE SCALP, ASSUMING MALIGNANCY.

This portrait is copied from Mr. Henry Ancell's paper in the 'Medico-Chirurgical Transactions.' It shows the later stage of a patient in whom tumours of the scalp were followed by the multiple production of solid growths (carcinomatous) on other parts of the skin and in the internal organs.

The case is described on page 336, and the original paper will be found at page 236 of Vol. XXV. of 'Medico-Chirurgical Transactions.' The tumours of the scalp are said to have looked like tomatoes. The patient stated that the first tumour had appeared at the age of fifteen, and she was fifty-two at the time the portrait was taken. Her failure of health and the conditions indicating visceral disease extended over about two years before her death. There was a very large growth in the liver, and innumerable small ones covering the peritoneum, omentum and mesentery.

The patient's grandmother was said to have had similar tumours on the scalp; a younger sister had had a tumour removed from one of her breasts; and an elder sister was, at the time of the report, the subject of a crop of tumours on her scalp just like those of the patient. Several of the children of this sister, including two sons, were similarly affected.

Although there was no proof that at any stage of the disease the tumours had presented in this patient the conditions of ordinary steatomata, yet there was reason to believe that they had done so in her relatives; and there could be little doubt that they took their origin in sebaceous glands.



West, Newman, lith.

had at one sitting removed no fewer than sixty. His description would lead to the belief that some of them were sebaceous cysts and some of them solid. A marked difference of feature from the sebaceous tumour was that within a year they had grown again under the scars. There can, however, be but little doubt that the beginning of the disease was in the sebaceous glands of the scalp, and it is very probable that in some of the relatives the conditions remained such from first to last; there is, at any rate, no recorded proof that they went further. In the patient who is the subject of the case, however, ulterior results occurred, and a decidedly malignant type was assumed. The patient eventually died with a very large tumour in the liver, and an immense number of small ones on the peritoneum.

I have thought it worth while to reproduce the portrait of Mr. Ansell's patient (see Plate XCII.). Such facts are most valuable in support of the doctrine that there is no abrupt line of demarcation between innocent and malignant growths. We have long known (more especially in connection with Mr. Cock's observations) that cystic tumours of the scalp may assume conditions of local malignancy. In the present case we have, however, more than that, for there was infection of distant parts.

Lupus-Cancer.

The observations which have been made respecting cancer occurring in lupus-tissue have been tolerably uniform. It would appear that the change of process usually takes place late in the case. The lupus patch has probably been present many years before it takes on cancer. In some cases, the patient has made definite advances towards senility. The cancerous action usually begins at the edge of the lupus patch, and in a part which is ulcerated and granulating. When once set going the cancerous action is somewhat rapid. It develops quickly a large sprouting mass, and it is remarkably resistant of all treatment. If destroyed by escharotics it sprouts again; and if excised, however freely, it is not long before a new growth demands fresh treatment. It is no doubt a variety of epithelial, but it is far more rapid in its

spreading than is that form of epithelial, the rodent ulcer, which usually attacks the face. Although so different from the latter in its rapidity and tendency to fungate, lupus-cancer probably conforms to the rule so all but invariable in rodent, of not causing gland disease.

The following is a brief summary of Dr. Bayha's remarks respecting the pathological nature of lupus-carcinoma :—

In the more numerous and interesting cases in which epithelioma developed in a part then the seat of lupus, the irritation of the cell-deposit and the abnormal vascularity may be considered as having had some share in its causation —just as soot and paraffin acting as persistent irritants have been shown to possess, or as a long-standing "psoriasis linguæ" is admitted to have. Further, the interpapillary prolongations of epithelium which occur in cases of common lupus must be regarded as favouring its development. Busch has described this down-growth of epithelium with formation of epithelial-nests in the prolongations, and has pointed out that it is nevertheless not true cancer, and in most cases follows the chronic course of ordinary lupus. In sections from the real cancerous growths the prolongations were seen to branch up, and their epithelial cells becoming smaller, to intermingle with the round cells of the lupus deposit. (See ARCHIVES, Vol. II., p. 143.)

Cancer as a Sequel to Lupus Erythematosus.

Two sisters, the one aged 74 and the other 70, consulted me together. The elder was the subject of scirrhus of one breast, and I was told that one of their parents had died of malignant disease. It was the case of the younger one which was of pathological interest. She had, she told me, long been under the treatment of one of my specialist friends for lupus erythematosus on her scalp, and she had repeatedly had caustics applied. She showed me a florid patch of glossy scar near the middle of her scalp, in the middle of which, quite recently, ulceration had taken place. It was on account of this ulceration, which was a new feature, that she wished to have fresh advice. The ulcer, which was a streak about an inch and a half in length, had florid sinuous edges, very like

those of rodent ulcer, and not in the least like those of lupus erythematosus. I have no doubt that it was an example of the latter malady, or rather the scar of it, having taken on malignant action. I destroyed it by caustics.

Symmetrical Cancer involving both Breasts.

Miss Walker, M.D., was kind enough to bring for my inspection a case in which the course of scirrhus of the breast had been somewhat unusual. The patient, who was fifty-two years of age, and had lost a paternal aunt from cancer, had first noticed the nodule in the inner margin of her right breast. This was about six years ago. The condition present now is that of involvement of both breasts in one large ulcer which crosses the middle of the chest. Both nipples and the greater part of both glands have been destroyed, but as a considerable amount of cicatrization has taken place, the ulceration now present is not much. The scar and the ulcer are quite fixed to the chest-wall. The surrounding skin is in most parts infiltrated and brawny, and of a dusky purple tint; Every here and there are nodules of scirrhus growth, but they are of no great size. A remarkable feature in the case is that with this extensive disease of the breasts and skin of such long duration, no material implication of the lymphatics has occurred. There is a little thickening along the borders of the axillæ; but the patient, who is the mother of five children, is still able to use her arms in all her household avocations. She is a tall woman of spare habit, and in tolerably good health. She does not admit that any independent growth was ever developed in the left breast. The condition of things is very suggestive of independently symmetrical cancer of the two glands.

Fifteen years of immunity after removal of Cancer of the Lip for a third recurrence.

In reference to the non-recurrence of cancer of the lip after removal, the case of a Mr. R——, who is now aged 73, is of some interest and value. This gentleman had had a sore twice cut from the left part of his lower prolabium. He came to me with a third recurrence. The sore had

extended rather widely, but not deeply. For this reason I did not employ the usual V-shaped incision, but destroyed it very liberally indeed by means of the actual cautory. I find it described in my notes of March 12, 1874, as "an ulcer with hard edges, but without papillary growth." In August, 1889, that is, fifteen years later, Mr. R—— came to me again for another disease, and I had the satisfaction of finding that his lip had remained quite sound, and that no gland disease had developed.

There are doubtless many cases in which after excision of epithelial cancer of the lower lip no local return is ever witnessed. I fear, however, that it is exceptional to escape subsequent implication of the lymphatic glands. On the rarity of permanent immunity Sir James Paget has expressed a strong opinion. In the present instance a third recurrence after excision well proved the local tendency. As regards the mode of operating, I believe that in certain forms of cancer of the lip which extend widely but not deeply, and in which sometimes it is not easy to assign the limits of the disease, that the actual cautery, if very freely used, is more efficient than the knife.

Elephantoid hypertrophy of the mons and labia, possibly beginning from a Congenital Mole.

A very interesting case, illustrating the varieties of elephantoid hypertrophy and their mutual association, was sent to me from near Whitby by Dr. Johnson Herbert of that place. The patient, a married woman, the mother of a large family, presented an example of most grotesque symmetry of lesions. The mons veneris was enlarged until it constituted a projecting mass the size of two fists; directly beneath it, but not continuous, was another growth of a coarsely papillary nature as large as a child's fist. These two growths were placed exactly in the middle line, one above the other; and on each side from the adjacent, but again not continuous, part of the thigh was a large soft mass of hypertrophic skin and subcutaneous tissues. These side-growths were quite smooth. Thus we had four growths, two central and two lateral, and they gave us examples of three different types of hypertrophy.

Those of the thigh, as said, were quite smooth, there being not the slightest change in the texture of the skin itself. The growth placed between the clitoris and the mons resembled the structure of a cockscomb mole, being very coarsely papillary, the huge polypoid papillæ being made angular by mutual pressure. The mons itself showed no papillæ, nor, on the other hand, was it smooth. Most of the hairs were lost, but those which remained had been gathered into little tufts (the scrubbing-brush condition), and between these tufts the skin was much overgrown, thickened, and very hard. These several peculiarities were due, no doubt, to the original anatomical peculiarities of the part affected. A tendency to inflammatory hypertrophy was the feature common to all three. The scrubbing-brush type of overgrowth can occur only on parts where large hairs abound, and takes its peculiarities from their presence.

Although I have ventured in the title to suggest that this peculiar overgrowth took its origin in a congenital mole, I must admit that there was no proof that such was the case; and further, that the symmetry of growth was perhaps opposed to the suggestion. There was no history whatever as to the first cause of the changes, they had been in progress for many years, and were still advancing, and this was all that the poor woman could tell us. I cite the case with interest as another item in proof (in addition to many others) that the changes which rank as elephantiasis occur occasionally in English people with precisely the same aggressive tendencies which are witnessed in the tropics. I think also that the case is of much value in support of the general pathological law that when once solid edœma with hypertrophy has begun in parts which are more or less pendulous, there is a constant tendency to increase. The part is overfed by the partially stagnated fluids, and overgrowth ensues. This overgrowth, slow at first, increases in rapidity as the disease advances. Thus a disease which gave the patient but little anxiety in its early stages becomes in the end a cause of great annoyance and distress. The law of population-increase applies to these non-malignant hypertrophies just as it does to cancerous growths. The greater the bulk of the growing mass, the more rapid its rate of increase.

Case of suspected Sarcoma of Skin.

I have now no means of completing the narrative of which the following is a fragment. I publish it because it is desirable to keep in memory exceptional facts although unexplained, and also partly in the hope that some of my readers may be able to inform me of the sequel of the case. I saw the patient but once, and have not kept either her name or address.

In September, 1874, I saw, in consultation with Dr. Martin Cooke, an elderly lady, whose thighs presented a condition the like of which I have never seen in any other. On the outer side of both thighs, from the knee to the hip, were a number of hard knots not unlike very hard thrombosed varices, excepting that there was no continuity between them. Yet they were so distinctly in lines that I was led to suspect disease of lymphatic trunks. Many of them were as large as hazel-nuts, some less, and some even larger. In the early stages they were placed beneath the skin, but as they grew they became adherent to it. They were more numerous on the left side than the right. I should scarcely have suspected a malignant tendency if these lumps had been alone, but should rather have thought them caused, as suggested, by some chronic inflammation of lymphatic trunks. On the inner side of the left thigh, however, there was disease of a different kind. A patch of skin as large as one's hand had here become adherent to the deeper parts and itself much indurated. It was flat or depressed in the middle rather than raised. It was infiltrated and of brawny hardness. Its surface was of dusky yellow and its margins ill-defined, and not in the least raised. It much reminded me of some patches of morphœa, but the ivory whiteness was absent. Neither this patch nor the other lumps had caused any pain, and both had been present three months or more, and were thought to be increasing. Our patient was florid, and in good health. She was the subject of old-standing disease of one hip, for which she had been treated by Mr. Hilton six years ago. At that time both legs swelled very much. This history of bygone œdema of the lower extremities favoured the suggestion of disease of the lymphatics.

A CASE OF ACROMEGALY.

I HAVE already recorded in ARCHIVES four cases of Acromegaly, —two in men and two in women. The kindness of a medical friend has, during the last month, brought under my notice a fifth example of this most peculiar malady. The patient is a gentleman of about 45, and it seems probable that the overgrowth of his extremities has been at least ten years in progress. He possesses photographs of himself showing his appearance at different ages. The change which his face has undergone is most remarkable. He has now a very large and prominent lower jaw and strongly marked supra-orbital ridges. His portrait at the age of eighteen shows a small face, and, what is especially noteworthy, a lower jaw and chin so diminutive as to amount almost to a deformity. There can be no doubt that in childhood he experienced an arrest in the growth of the lower jaw, as he is now showing the reverse. His face is now curiously assuming a resemblance to that of his mother, from which it differed very much in childhood. His mother has a chin so prominent, and such a large lower jaw, that I suspected for a moment that she, too, must be the subject of acromegaly. She assured me, however, that she had not experienced any increase in size of her hands, nor did she think her chin larger than it was in youth.

Mr. W——, the subject of my present narrative, is an unmarried man of respectable attainments in his profession, but one who has always, and with reason, regarded himself as of exceptionally slow mental processes. He considers that he has enjoyed good health, and has not suffered from headaches. He is the subject of valvular disease of the heart left by rheumatism, but it causes him no material inconveni-

ence. Not only have his head, hands and feet become affected with hypertrophic changes, but his trunk has assumed the

peculiarities which attend the more advanced examples of acromegaly. The illustrations which I append are not

DIAGRAM A. — ILLUSTRATIONS OF OVERGROWTH OF THE HAND AND FINGERS IN ACROMEGALY.

(COPIED FROM DR. PIERRE MARIE.)

FIG. I.—HAND OF A PATIENT THE SUBJECT OF ACROMEGALY.

FIG. II.—A NORMAL HAND (FOR CONTRAST).

original, but are taken from Dr. Pierre Marie's paper.* With only very little modification, however, they might serve for my patient. The size of the fingers and hand as shown in it are really not in the least exaggerated.

We must study the peculiar overgrowth-tendencies which Dr. Marie's observations have made known to us, as widely as possible with reference to other facts as to disturbances of normal development. In my present case there have undoubtedly been present in early life certain arrests of growth, and the state of the nervous system has been throughout peculiar. We must also take into consideration all possibilities of inheritance. In one of my former cases, of which a married woman is the subject, there has occurred in the only son of the patient a definite arrest in the completion of the sexual system. The youth is now overgrown for his age, excessively fat, with small testes and very large mammary glands (see page 328).

Note on the association of disease of the Pituitary Gland with Acromegaly.

Although I have nothing whatever of my own to record in reference to this subject, I take this opportunity of drawing attention to the fact that Dr. Pierre Marie attaches great importance to enlargements of the pituitary gland in association with acromegaly. I also introduce two woodcuts taken from his work—the one showing the base of the skull with great enlargement of the sella turcica (Fig. 1), and the other (Fig. 2) the base of the brain, showing the enlarged gland itself. The change in the gland consists of hypertrophy of its substance, and is not a neoplastic process (see page 63 of the New Sydenham Society's volume). Other pathological changes have also been observed, such as hypertrophy of the ganglia of the sympathetic, persistance of the thymus, alterations in the thyroid, and hypertrophy of the heart and arteries. Amongst these, however, both Dr. Marie and his pupil, Dr. Souza-Leite, give the greatest prominence to the pituitary hypertrophy. At the time that the latter wrote, he was able

* See Translation by New Sydenham Society.

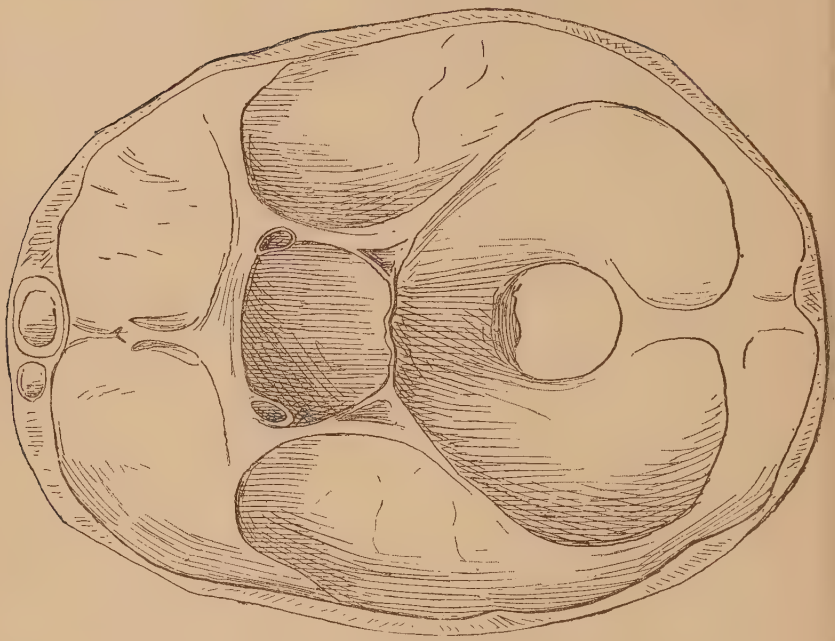


FIG. 1.—ENLARGEMENT OF SELLA TURCICA (from Marie's Work).

FIG. 2.—HYPERTROPHY OF PITUITARY BODY (from Marie's Work).

to state, as the result of seven autopsies, that it had always been found present. In an important case* subsequently published by Dr. Henry Waldo and claimed as acromegaly, this gland was not enlarged. The case is, however, perhaps more nearly allied to what has been described as an osteo-arthropathy consequent upon pulmonary obstruction, than to true acromegaly. Dr. Robert Saundby has also recorded a case† in which the pituitary body was normal. But in this again the diagnosis of true acromegaly may be doubted, for the disease had run an almost acute course, and was complicated with rheumatism. Thus it may even be said that the negative facts in reference to this point support rather than otherwise the conclusions of Dr. Marie on the point. In what way enlargement of the pituitary body is connected with the other phenomena of the disease it is impossible in the present state of our knowledge to conjecture, but the post-mortem evidence must be admitted to be strong.

Postscript.

The illustration of the contour of the chest, neck, and back, which I have introduced at page 344, is, as are the other illustrations, copied from Marie's work. It is, however, making allowance for personal peculiarities, a very correct representation of the patient whose case I have above recorded.

* *British Medical Journal*, March 22, 1890.
† *Illustrated Medical News*, March 2, 1889.

DOCTRINAL PATHOLOGY.

In some remarks, made some years ago, on the nature of ex-ophthalmic goître, I asked attention to the noteworthy fact that relapses scarcely ever occur. A patient may have had a very severe and very prolonged attack, and may perhaps have only just avoided a fatal termination, but when once recovery has set in it is usually steady, and after restoration to health it scarcely ever happens that there is any approach to a return of the disease. In this feature the malady presents a very marked clinical contrast to many other affections of the nervous system, which are either slowly aggressive, or which display definite tendency to relapse after temporary improvement. Mr. Sidney Austin, of Lingfield, has just communicated to me some facts respecting a case which I saw some years ago, which remarkably confirm the statement just made. Nearly ten years ago he sent to me, at the Moorfields Eye Hospital, a young woman named Pearson, who had lost both eyes in consequence of their exposure during extreme proptosis. She had been very ill with all the usual symptoms of the malady, but was then beginning to recover. Mr. Austin tells me that this woman is still living, and that she has since her illness enjoyed very fair health, without any tendency to relapse. She is, in consequence of destruction of the corneæ, quite blind.

In some paragraphs, under the head of Doctrinal Pathology (see Archives, Vol. III., pp. 224 and 227), I have asked attention to the fact that single patches of lupus erythematosus may be completely got rid of by destructive cauterization. This appears to me to be a very important fact, and if I recur to the subject now it is not with the

slightest wish to vaunt my own success of treatment of a most troublesome disease, but rather to illustrate a pathological law. We have long admitted, and the fact cannot be too strongly and definitely stated, that lupus vulgaris becomes what it is in virtue of some infective material, by the agency of which it spreads. Whether this infective material is always the tubercle bacillus, or some derivative from it, is as yet an open question, but about the main fact there can be no sort of doubt. Common lupus is an infective process of cell-growth with inflammation, beginning in a person with more or less of scrofulous predisposition. That it is so, all our methods of cure demonstrate. Constitutional measures, although they may modify the type and do much to restrain the inflammatory element in the partnership, are of no avail to cure the disease. The infective cell-growth must be attacked and utterly destroyed. Whether this is done by what I will term destructive cauterization, by incision or erasion, does not so much matter. What is necessary is that it should be done thoroughly, and that it should be followed up.

It has, however, been supposed by many that the group of diseases which we class under the name of lupus erythematosus are essentially different from lupus vulgaris, that their laws of spreading are not the same, and that they are not amenable to the same treatment. Without doubt, in some very obvious features they present considerable differences. I believe I am myself responsible for having first insisted upon the important difference that the one always tends to produce symmetrical lesions, and the other, although it may become generalized, to develop without symmetry. I cannot, however, charge myself, although I have done what I could to point out differences, with having ever felt the slightest hesitation that they both belong to the same family. I have tried to show repeatedly that there are various connecting links between the two, and that the causes of difference are probably incidental to modifications in the tissue tendencies in the individual attacked. I now assert that the essential identity of the two diseases is illustrated by the sameness of the essential principles of their treatment, for

in lupus erythematosus it is just as important as in lupus vulgaris to completely destroy the infective material.

The study of the reflexes as regards the secretions is one of very great importance and interest. It has certainly not yet received anything like the attention it merits. A large number of morbid processes are explained by its aid, and many of our methods of cure must be based upon attention to its laws. Perhaps the simplest and most easy opportunities for the study of nervous influence upon the secretions will be found in connection with the salivary glands. We can all of us study these in our own persons. We know that the flow of saliva—and with it we will include the secretions of all the glands imbedded in the mucous membranes of the mouth —can be influenced by a variety of causes acting upon the nervous system. Its most common cause is of course the presence of food in the mouth. The quality of food and its taste may become important factors as regards the quantity of saliva, but it is not necessary that the food should have any taste at all, for the mere act of chewing, say of a piece of india-rubber, will to a certain extent excite the secretion. Still it is well known that articles of good flavour and pleasant to the palate are much more efficient. A savoury meal makes the mouth water much more than one of the opposite kind. The nervous mechanism by which this is brought about is that of an incident and efferent nerve, but it is somewhat more complicated than are the phenomena of muscular action. In part the secretion is brought about by a liberation of blood-vessels, which, being permitted to dilate, flood the gland with blood, and thus supply the material for secretion. To such an extent may this arterial turgescence of a gland in a state of active secretion go, that the blood obtained from the veins may have the colour of that from arteries, and may be ejected in a forcible stream. Physiologists, however, tell us that it is not a matter simply of increased blood supply, but that probably certain nerves effect a direct influence over the gland elements.

In examining as to the process by which a contagium is

bred up, we have to remark that it would appear as if when suitable subjects for contagion are at hand and the disease has once begun to spread amongst them, that a certain degree of virulence in the materies may easily be attained. It seems to be so in household epidemics of catarrh, in outbreaks of school ringworm and of school diphtheria, in the so-called epidemic eczema of infirmaries for the aged, and especially in porrigo after vaccination. I do not mention the contagious fevers, because in them no suggestion can be made as to spontaneous origin, and they, as being most definitely "specific," constitute a different class. It is, however, quite appropriate to cite the well-known facts as to their epidemic virulence as illustrating my present topic. There is a general belief dating, I think, from the time of Sydenham, that the severity of the disease and the virulence of its contagious properties differ not only in different epidemics, but even in different periods of the same.

It would appear to be possible for certain individual nerves to acquire a tendency to the production of herpes. I have recorded a number of cases in which patients were liable to recurring herpes, the part affected being always the same. Some of the most definite examples of this begin in early childhood. I have just seen a gentleman of about thirty who had on the left side of his neck a leash (or panicle) of herpes spots. He did not consult me on account of this, but for another matter. On asking about his herpes, he told me that he had had an attack once a year since the age of three. Usually the attack occurred in December, and he did not think that he had escaped it more than once or twice. It was always attended by much feeling of stiffness, but not much pain, and usually lasted ten days. He had never taken arsenic to prevent it, and he did not associate it with any particular condition of health. The eruption always affected exactly the same part.

The laws which regulate the possible conditions of the latency of the specific germs are well worthy of our most careful investigation. We have assigned with tolerable

accuracy the incubation period of most of our specific fevers. At any rate, we know what are the shortest periods which intervene between the reception of the poison and the outbreak of the phenomena. These minima are probably, as a rule, tolerably well observed as averages. We know, however, far less as to the maxima—that is, as to how long it is possible for any given specific poison, whilst retaining its vitality, to remain entirely latent as regards any display of energy. That in the case of hydrophobia this latency may be very long, we know for certain. Whilst probably a month or six weeks is at once the minimum and the average, it is certain that the maximum may extend over as long a time as two years. Who shall say but that facts of a somewhat similar kind are not occasionally witnessed with respect to the other specific poisons? We know little or nothing as to the conditions under which the poison of hydrophobia thus remains for so long quiescent, nor of the influences which finally rouse it into activity.

The recurrence of erysipelas in patients who have had previous attacks is a fact which much favours the belief that specific germs may, after a sudden outburst of energy, lapse into quiescence. Elephantiasis very usually takes its origin in an inflammation of an erysipelatoid type, and its subjects usually suffer from periodic recurrences of erysipelas. In the same way, patients suffering from lupus occasionally have repeated attacks, and this is especially common in what has been called lupus lymphaticus and in lymph-angeomata of the tongue. The subjects of the latter disease often get a febrile attack, in which the tongue swells up, every six months. Patients who have once had an attack of erysipelas are, as all operators know, much more prone than others to suffer from the same disease in connection with traumatism, whether from an operation or accidental injury. In all these cases we must suppose that, in some obscure way, germs capable of originating erysipelas have remained latent in the tissues.

The explanation of the occurrence of scarlet fever, or of

something exactly like it, immediately after operations, has long presented a problem which has puzzled surgeons. Is it possible that it may be explained by the prolonged survival of quiescent germs, the activity of which is favoured by the disturbance produced by the operation. I observe in the Saint Bartholomew's Hospital Reports, just published, a case of this well-known class. In it a woman died of scarlet fever on the fifth day after an amputation. No case of scarlet fever had occurred recently in the wards, but on inquiry from her family the curious fact was elicited that scarlet fever had occurred in her house several months before her admission.* It is not always scarlet fever that occurs in this connection. I recently excised some strumous glands from the neck of a girl aged 14, who was apparently otherwise in good health. Two days later she was covered with an erythematous eruption, concerning which there were differences of opinion as to whether it was a roseola from the anæsthetic, or German measles. She had no temperatures, and the rash subsided without any positive diagnosis being arrived at. Her nurse, however, in due time sickened with an attack, concerning which there could be no doubt that it was common measles, and which was attended with considerable fever.

The girl herself had had measles definitely a year or more before this attack, and there was no reason for suspecting that she had been recently exposed to infection. Students of cryptogamic botany, or even, for the matter of that, of phanerogamia also, will, I believe, be able to supply us with plenty of remarkable instances of long periods of latency of the spores of fungi and the seeds of plants. There seems, indeed, to be little or no limit to the retention of vitality, with quiescence as regards manifestations of it, on the part of such organisms, and we may perhaps fairly allow the observations of the botanist to assist us in our conjectures as to what takes place in the field of pathology.

The recent number of the Saint Bartholomew's Hospital Reports contains an exhaustive report by Dr. Church concerning the occurrence of diphtheria and throat disease

* See page 272, Vol. XXVII.

in the wards of that hospital during the year 1890. It will be within the recollection of some of my readers that I adverted to this so-called epidemic at the time of its occurrence, and expressed a strong opinion that it was due entirely to the contagious nature of the malady, and not in the least to any unsanitary conditions in the hospital itself. Dr. Church's paper, which enters into the fullest detail, entirely substantiates this view. This question of contagion *versus* drains is of the utmost importance to the managers of hospitals, schools, and other public institutions. It is not at all uncommon for sanitarians to insist on the most inconvenient and costly remedies and precautions which, after all, are of not the slightest value. The institution must be closed, and a new system of drainage constructed for the cure of a disease, which, after all, was only a catarrhal malady spreading by contagion. Without venturing to deny the influence of imperfect drainage, I yet venture to express the strongest possible opinion that the spread of diphtheria as an epidemic is almost wholly due to its contagious properties. Wherever crowding occurs, wherever large numbers of individuals are placed under circumstances in which they may easily come in contact with each other, there diphtheria will spread. The facts are the same as regards epidemics of scarlet fever and small-pox, with the difference, however, that the latter are, of course, more energetically contagious, and that therefore the facts become more obvious. All that is wanted, however, in respect to diphtheria is to observe carefully and reason closely.

My friend Dr. Gayton, the Medical Superintendent of the Poor-law Asylum for Fever at Haverstock Hill, tells me that they receive there many cases of diphtheria in children between two and ten years of age. Of late a very good ratio of success has been obtained by tracheotomy. The point which chiefly interests me in reference to my present argument is that most of these cases are, so to speak, sporadic. There has been no epidemic of diphtheria in the districts which supply patients to the asylum. Sometimes there is a statement that several children in the family have had sore throats, but never of

local prevalence, and in many cases the patient is the only one who has suffered. In nearly all cases in which the trachea is opened, membranes of greater or less extent are found.

Such facts suggest a strong probability that most of these cases are catarrhal in origin. They also further give support to the hypothesis that catarrhal affections may become contagious.

I extract the following passage from an account of a case in which multiple gangrenous patches occurred in a child of four years of age during typhoid fever: "Multiple gangrenous dermatitis was first described by Mr. Jonathan Hutchinson, who gave it the name of 'varicella gangrenosa,' all his original cases having originated in varicella. Subsequently he showed that it might occasionally follow vaccination. Dr. Radcliffe Crocker was the first to show that the disease was by no means always traceable to varicella, and that it might follow 'any pustular eruption in which the soil is suitable.' He states that although the disease most frequently follows varicella and vaccinia, it 'may ensue from other pustular and non-specific lesions under certain conditions,' the chief of these conditions being tuberculosis, rickets, and congenital syphilis. He also mentions 'antecedent fever as a pre-disposing cause.'"

It appears to me that there is some confusion in these statements. I never described the "multiple gangrenous dermatitis" as a special disease, and never for a moment doubted that, in delicate children, any form of pustular eruption might be occasionally attended by gangrene. The term "multiple gangrenous dermatitis" is surely too wide to be of much clinical use, since it may be made to include cases which have no real relationship to each other. What I did describe was, first, "gangrenous vaccinia" (*i.e.*, of the eruption which sometimes attends vaccination), and, secondly, "gangrenous varicella," and I believe that it will be a great convenience if these names are allowed to stand as belonging to diseases totally distinct from gangrenous, non-specific, pustular eruptions. "Gangrenous varicella" means gangrene of the varicellous spots, and of those only, and is not attended

by any other form of "dermatitis." Nor is it in any way connected with debility on the part of the patient, but rather with idiosyncrasy in reference to the specific poison. It would be as reasonable to merge "variola hæmorrhagica" in a general class of "hæmorrhagic dermatitis," as to change the term "varicella gangrenosa" in the direction suggested. The point is that the eruption of varicella may become gangrenous, and as this has, since my paper was written, been generally recognized, and as confirmative cases have been published by many, it is, I think, much to be hoped that no attempt will be made to diminish the accuracy and definiteness of our nomenclature.

I have already (Archives, Vol. III. p. 228) asked attention to the fact that when syphilis falls with severity on one tissue, it often appears to exempt the others. Thus, if the skin is very severely affected, the throat and mouth often escape, or *vice versâ*. In the tertiary stage nothing is more common than for the disease to affect not only a single tissue, but to restrict itself to one single part. What I have said applies, therefore, far more obviously in the late than in the early stages, but it is witnessed, I feel sure, not unfrequently in the latter also. I have just seen two patients, one the subject of a profuse papular eruption, and the other suffering most severely from rupia, and in both the throat was entirely free, not the slightest trace of congestion occurring about the tonsils. That affections of the osseous system are often restricted to it alone is a matter of general observation. Bone-syphilis remains bone-syphilis throughout, in a considerable number of cases.

My interpretation of the facts above referred to rests a good deal on the supposition that the lesions tend to reproduce themselves by a process of infection. Thus periostitis of one bone risks the occurrence of periostitis in others. I have applied this theory not only to the explanation of multiple specific lesions (in which, perhaps, this law has less influence than in many others) but also to such maladies as osteitis deformans, granuloma fungoides, and the like. The alter-

native hypothesis is that in some persons one particular set of tissues is more prone to suffer than the others, but although this is no doubt true to some extent, I much doubt whether it is adequate to the explanation of all the facts.

I have recently had under observation four examples of multiple syphilitic disease of the nails occurring in persons in whom the primary lesion was an ungual chancre. Two of them have been exceedingly well marked, all the nails of all the digits suffering severely. The other two were somewhat less so. One of these is published in ARCHIVES, Vol. II., p. 239. I am now inclined to attach more importance to this concurrence of phenomena than I did at the time I recorded the case referred to. It seems to me not at all improbable that the fact that a nail was involved in the primary chancre does exercise its influence in causing secondary inflammation of the other nails.

We must remember that multiple onychitis is not at all a common phenomenon in the course of secondary syphilis. One of the cases to which I refer was exceedingly well marked, and several specialists who saw the patient remarked that they had seldom witnessed such disease of the nails before. During the period in which I have observed these four examples of general onychitis consequent on chancres under the nail, I have not seen a single one in the least like them consequent on chancres on other parts. I am, therefore, I may repeat, inclined to believe that there is a causal connection between the special location of the primary sore (under the nail) and the occurrence of general inflammation of the other nails as a conspicuous part of the secondary phenomena. My attention was some years ago attracted to certain facts which seemed to favour a suspicion that injury to one nail might cause chronic inflammation to the others.

The general law that almost all inflammation, from whatever cause it begins, results in a seed-sowing process, acquires, to my mind, the more importance the more it is considered. It seems to explain a very large number of hitherto inexplicable clinical facts.

Under it almost all forms of inflammatory disease tend, with greater or less of energy, to reproduce their like. We have only to explain the origin of the first lesion, and the rest is tolerably easy.

The same law explains why so many forms of inflammatory disease appear to have natural limits of duration. These limits, although not so definite as in the case of the specific fevers which we call exanthemata, are yet fairly well observed. No one expects to see diphtheria or erysipelas persist indefinitely, any more than we should small-pox or measles. They may recur over and over again, but their special attacks appear to be under the influence of a law of limited duration.

The case to which I have referred in a previous paragraph is an interesting instance apparently in proof that the virus of typhoid fever, as well as those of vaccinia and varicella, may give a tendency to gangrenous inflammation of the spots. That variola could do so has, of course, long been known. It is the rule, rather than the exception, for the variolous pustule to undergo a sort of gangrenous ulceration. The gangrene is, of course, not that of large fragments of skin, nor indeed is such the condition in many of the cases which have recently been allowed to count as multiple gangrenous dermatitis. Now and then the skin inflames widely, and a large superficial slough is thrown off. This condition is well shown in a portrait which I possess which was given me by Sir William Stokes, of Dublin. It was an example of true gangrenous dermatitis following vaccination. Most of the cases must, however, I repeat, count rather as gangrenous ulceration of the vaccinia or varicella spots, than of absolute sphacelus. Thus in the case of typhoid fever referred to in the beginning of this paragraph, although the author, Dr. C. F. Marshall, heads his case as "multiple gangrenous dermatitis complicating enteric fever," and although some of the ulcers attained the size of a two-shilling piece, it is distinctly stated that at no time was there any distinct slough.*

* In this case the gangrenous dermatitis occurred in the fourth week of the fever. The eruption was on the back, scalp, and buttocks. The child, an ill-

I am especially interested in Dr. Marshall's observation to which I have referred above, and in which we may assume that the eruption which attends typhoid fever took on, on some parts, the conditions of ulcerating gangrene, because it fits with the creed that all the specific poisons have more or less tendency to cause ulceration, which may become phagedenic, or even gangrenous. The occasional association of these processes with all stages of syphilis is well known. Sloughing in the neck after gland disease in scarlet fever, and the occurrence of noma or cancrum oris after measles, are also well-known examples. That these occurrences have little or nothing to do with the previous health of the patient, in other words that the most healthy children may display their most characteristic forms, I am convinced. It is idiosyncrasy and not debility which is their cause. Conversely we see thousands of children in every stage of exhaustive disease who yet never display any tendency to noma or to multiple gangrene of skin. As a clinical rule, which will but seldom fail us, I feel sure that it may be laid down that whenever multiple lesions on the skin take on gangrenous ulceration, or sloughing of the cheeks or genitals takes place, the previous occurrence of some specific fever ought to be suspected. It is not in the least necessary that this fever should have been a severe one. Such accidents happen after slight as well as severe eruptions, and to strong as well as to weakly subjects. I might suitably add to the list those cases in which the primary vaccination sores inflame and become gangrenous.

nourished boy of four, was in an almost hopeless condition at the time; but he recovered, and the sores were almost all healed about five weeks after their commencement. There had been the rose spots of typhoid first, previously to those which passed into gangrene.

NOTES ON THERAPEUTICS AND METHODS OF TREATMENT.

No. XVIII.—*The first use of Iodide of Potassium in Syphilis.*

Mr. Judd was, I believe, the first English surgeon to employ iodide of potassium in syphilis. At the date of his book (1836) he had used it only in three or four cases, but he speaks enthusiastically of its efficacy. He gave it in doses of five grains three times a day against primary and secondary symptoms, and, curiously, was just trying it, evidently with some doubt, against a node. He thought it of especial value after mercury had been introduced into the system.

Dr. Williams, of St. Thomas's Hospital, and Dr. Wallace, of Dublin, began trials of the iodide almost at the same time.

No. XIX.—*Introduction of Iodoform for the treatment of chancre.*

The late Mr. Berkeley Hill, one to whom the literature of syphilis is much indebted, was, I believe, the first to introduce Iodoform into English practice. A year or more before his death I mentioned this fact to him, and found that he had, with characteristic modesty, quite forgotten it. He was, however, interested in the matter, and looked up the early references to it in the Medical Journals. I have before me a letter from him stating that he believed that I was right, and that a letter of his in the *British Medical Journal*, January, 1878, contained the first recommendation of the drug to our countrymen.

No. XX.—*Use of the Actual Cautery in Chronic Syphilitic Disease of the Tongue and Lips—Excellent Result.*

In October, 1887, a gentleman named P——, aged 50, consulted me on account of extensive disease of his tongue, lips, and palate. It was a condition to which I gave the designation in my notes of "syphilitic lupus." There was hypertrophic thickening, papillary growth, and ulceration—the three processes being in various combinations on different parts. He was in excellent health, and his syphilis was more than twenty years ago. He had, of course, been a smoker. At the house of his brother-in-law, who was a surgeon, we gave Mr. P—— an anæsthetic, and I then used the Pacquelin's cautery very freely to the affected parts. He had a very sore mouth for some weeks after this operation, but the result was sound healing and a condition which permitted of his eating anything he liked in comfort. He abstained from smoking for about a year, and then feeling secure he indulged again, though never so freely as formerly.

The operation was in October, 1887, and I saw Mr. P—— in June, 1888, when my notes state that his mouth was quite well. I did not again see him till October, 1891, when he came to me on account of a hard nodule which during the last year had been growing on the right edge of his tongue. It was very hard but not ulcerated, and although considerably elevated, not warty. It had given no pain. I advised its immediate excision, but first had a sketch taken, as the conditions were not usual ones.

Microscopic examination of the nodule did not show any epithelial strictures, only "fibroid induration."

No. XXI.—*Cure by Cauterisation of Lupus of the Conjunctiva.*

One of the best cases of the complete cure of lupus of the mucous membrane which I have had, occurred in the case of a young lady aged 25 (Miss C——). This patient consulted me, on October 15, 1891, for a little patch of lupus on the

conjunctiva of the lower lid, just within the left inner canthus. It was well characterized, and about as large as the tip of the little finger. She was in delicate health, but had no positive lupus elsewhere, although her nose and cheeks were erythematous, in the bat's-wing form, and in a somewhat suspicious manner. The patch on the conjunctiva was, of course, of the nature of lupus vulgaris and not erythematosus. There was a tuberculous history in the patient's family. Having advised Miss C—— to let me destroy the patch with the actual cautery, she at once acceded, and bore without flinching, and without an anæsthetic, a free application of Pacquelin's cautery. The eyeball was protected by a tortoiseshell speculum. When she called on me again one month afterwards, so perfect was the healing that I had even some difficulty in finding the scar. The curious bat's-wing erythema of her nose and cheeks was still present.

No. XXII.—*Note as to the effect of long continued use of Arsenic.*

A physician writes me a short account of his own personal experience of a long continued use of arsenic, stating that it corroborates the opinions I expressed in a recent lecture. On account of ataxic symptoms he took arsenic, under the advice of a specialist, for five or six years, leaving it off only when the bowels were too much irritated. Being at length advised by another specialist to discontinue it, he did so, and found that he got almost entirely rid of a tingling and numbness in the tips of the fingers which had long troubled him. He also lost a sensation of burning heat in patches in the soles of his feet and on his right thigh, from which he had suffered. His nails had been very brittle during the course. He did not feel in any respect worse for leaving it off, whilst in the points mentioned he was decidedly more comfortable.

It will be noticed how easily symptoms such as those described might have been supposed to be due to the disease for which, in this instance, the drug was prescribed.

No. XXIII.—*In praise of Gout.*

"I shall be happy to hear that my friend Joseph has recovered entirely from his late indisposition, which I am informed was gout; a distemper which, however painful in itself, brings at least some comfort with it, both for the patient and those who love him, the hope of length of days, and an exemption from numerous other evils. I wish him just so much of it as may serve for a confirmation of this hope, and not one twinge more."

The above quotation is from one of Cowper's letters, and well expresses the popular creed as to gout which was entertained during the eighteenth century. Since then we have become acquainted with granular kidneys and degenerate arteries, and our views as to the significance of podagra have received some modification. It may be suspected, however, that in this matter medical opinion has advanced faster than that of our patients. Many of the latter probably still share the belief of our good social poet. It may be suspected, too, that after all there was much truth in the old creed, and that to have had gout is not in itself a bad omen in reference to longevity. Many gouty persons are undoubtedly to a large extent free from other maladies. They are persons who, as a rule, avoid and escape most of the diseases incident to low tone. They live up to their digestive powers, and do not so easily succumb to debilitating influences as some who adopt more abstemious habits. It must be remembered, too, that they usually come of good stock, and that their predecessors for some generations have been of vigorous stamina, and accustomed to live liberally. It is better to have a tendency to gout than to verge towards scrofula, anæmia, or neurasthenia, and to a large extent (though not absolutely) the one does exclude the others. If the man who has had an attack of gout will only allow it to serve as a warning, and henceforth select his wine with judgment, avoid all fruit, take plenty of salt, keep his bowels open, and never neglect exercise, it is probably still true that he has before him "the hope of length of days, and an exemption from numerous other evils."

No. XXIV.—*Notes on Tea—A Cause of Angina—A Febrifuge—A Heart Tonic—Black and Green Tea—Increasing Consumption in England.*

The note which I published in my last ARCHIVES on cases of Angina from Tea has been the means of bringing, through my friend Dr. A. P. Woodforde, a reference to a paper by Dr. Edward Percival, of Dublin, on green tea.* Dr. Percival records two cases, more or less similar to my own, in illustration of the production of urgent cardiac distress from drinking tea in excess. In one of these the subject was a gentleman (probably Dr. P. himself) who, during a pedestrian excursion, had taken strong green tea three times in the day, and but little food. He did not experience any ill effects until he was in bed, when he had distressing sensations about the heart as if about to faint. These increased after two hours of troubled sleep, when he was seized with acute pain at the heart. "His pulse was feeble, irregular, and intermitting to an extraordinary degree, and slight fits of threatened asphysxia recurred every five or six minutes." Opium (two grains) and brandy were given, and with temporary relief, but after another hour of troubled sleep he again woke in great agitation, gasping for breath, and bedewed with a chilly moisture. Opium and brandy were again had recourse to, and in the morning he was quite well. Both before and after the occurrence this gentleman was accustomed to drink strong green tea without inconvenience, but never to such excess as on the day in question. In the second case a medical man was seized about noon one day with such distressing sensations at his heart, that he felt sure that he was about to die. His pulse was scarcely discernible, and extremely irregular. A large glass of cherry brandy relieved him. He had been sitting up the previous night and drinking strong green tea.

The recommendation of the use of tea as a febrifuge dates as far back as the time of Dr. Erasmus Darwin. Dr. Percival, in the paper from which I have quoted, supports Darwin's opinion, and adds, "That cold or warm tea, according to circumstances,

* See Vol. I. Dublin Hospital Reports, 1822, p. 220.

may be given plentifully, and with much benefit in fevers, I can fully attest. The restlessness and hurried circulation which attend suppurative fevers, especially pulmonary consumption, are greatly alleviated by the use of green tea. In the quality of controlling the action of the heart and arteries, green tea nearly resembles digitalis. It deserves remark that tea, and especially green tea, very commonly restores regularity to a pulse which habitually or frequently beats with irregularity. This I have observed in many instances, both in health and disease. It is true that the reverse of this is sometimes, though I believe rarely, observed."

The strong distinction which our forefathers made between black and green tea is fast ceasing to be of any importance in England. Green tea is still largely taken in the United States, but amongst ourselves it is now scarcely heard of. In the Indian and Ceylon plantations, from which we now receive a large part of our supply, I believe that green tea is not made.

This is probably a very considerable gain, there being little doubt that black tea is the more wholesome of the two. There has been much debate as to what the real difference between the two is, but I believe that this question may be at once simplified by saying that all black tea has undergone a short process of fermentation which destroys certain ingredients in the leaf. This takes away from it a certain sharp flavour which connoisseurs in green tea appreciated, but which to most persons is disagreeable. So strong was the conviction in former days that green tea might disagree with many who could take black with impunity, that I do not think there can be much doubt that the element thus destroyed in the fermentation is of real importance.

It is possible, however, that for some purposes we may have been hasty in wholly discarding green tea. Dr. George Cheyne (who wrote on dietetics) held that it was more easy of digestion than black, and, as quoted above, Dr. Percival preferred it as a cardiac tonic.

The consumption of tea in England is now about five pounds per annum for every person. In the colony of Victoria it amounts to eleven pounds, whilst in the United

States it is not more than one pound and a quarter, and shows no tendency to increase. In Russia, which has the repute of being a tea-drinking country, it is not half a pound per head, and in Denmark, Germany, and France it is almost nothing. As regards the latter countries, it must be remembered that it is largely replaced by coffee.

The correct appreciation of the habit of tea-drinking is becoming year by year of more importance to the English nation. We are diminishing our consumption of coffee and very largely increasing that of tea. Excellent and unadulterated teas are now supplied all over England at prices which place them within the reach of all. The production of tea has ceased to be the monopoly of the Chinaman, and has extended with wonderful rapidity into our own colonies. There is no longer any temptation to the manifold adulterations, manipulations, &c., which were practised by the Chinese. We have, therefore, a much simpler problem to deal with. The question now is what is the influence on health of the habitual consumption of sound black tea, and what ought to be our advice to the public as regards the consumption. For my own part I have not the least hesitation in recording the conviction that the development of the tea-trade has been in the past, and will be in the future, a most important aid to the progress of civilization. Nor do I believe that it will be attended by any serious drawbacks. It is the introduction of tea and coffee, and so far as England is concerned, of tea chiefly, which has mainly favoured those habits of temperance as regards the use of alcoholic beverages, the acquisition of which has constituted the chief social reform of the present century.

Whilst, however, the medical profession should be very far from in any way fostering the absurd prejudices which we still occasionally hear expressed as regards the dietetic use of tea, it is yet very desirable that we should be able, as the result of unprejudiced observation, to extend suitable cautions. There can be no doubt whatever that the injudicious use of tea may produce not only alarming attacks of disturbance of the heart, but seriously impair the digestion and enfeeble the nervous system.

MISCELLANEOUS CASES.

No. XLVI.—*Ringworm not always in Rings.*

When ringworm occurs in the naked skin we must not expect to always see it take the form of rings. Often its patches are quite undistinguishable from those of dry eczema from other causes. They are not in rings, nor even in round areas. A child which I have seen recently had scattered patches on her cheeks and nose. They were scaly, ill-defined, and none of them in the least approaching the annular, nor even the nummular form. On the front of one wrist, however, there was a large patch which had a definite edge, and was, in fact, an ill-marked ring. This excited suspicion, and I examined the scalp and found there ringworm in its ordinary form. Other children in the family also had it. There was abundance of fungus in the scales removed from the patch on the hand.

I possess several portraits which show well the deceptive appearances of ringworm patches on the body.

No. XLVII.—*Acute Tetanus from Contused Wounds of the Knee.*

I have attended recently a second instance of acute traumatic tetanus from a contused laceration of the knee received in a fall. Both cases ended fatally. Dr. Allden, of Henley, tells me that he has just lost a horse from tetanus, from a badly "broken knee," and that his veterinary surgeon said that the occurrence was not very uncommon. It will be observed in these cases that contagion from earth is possible. On the other hand we have, I think, many cases—as, for instance, after burns—in which it is out of the question.

No. XLVIII.—*Prolonged life with imperforate rectum.*

Mr. William Berry, of the Wigan Infirmary, has recorded a case in which a child lived eighteen days with an imperforate rectum. It had taken food and had no vomiting. It died three days after an inguinal colotomy.*

No. XLIX.—*Symmetrical Pes Cavus after Infantile Paraplegia.*

Miss D——, a young lady of 20, is the subject of symmetrical pes cavus, with hammer-toes. She can walk, but her ankles are weak and apt to give way sideways. She had some illness in childhood attended by paraplegia. The condition is symmetrical. There is no complete paralysis of any special muscles, and in this feature the case differs definitely from what is usual in infantile paralysis. She has had the plantar fascia divided, and has been encumbered with heavy irons, but her testimony is that she can walk better without them. Her legs are very thin, and the feet are habitually cold.

No. L.—*Adhesion of the Toes as an hereditary malformation in three generations.*

Mrs. A—— consulted me as to her son's feet, in both of which the second and the middle toes were united together in their entire lengths. The condition was symmetrical. The toes, with their separate nails, were well grown. The condition caused him not the slightest inconvenience. All the other digits, both of hands and feet, were normal. On questioning Mrs. A——, she admitted that her own feet were in a similar condition, "but not so much so"; and on further pressure, that she thought her mother's were so likewise. Mrs. A——'s own family consisted of four sons, and of these two others showed some tendency to the same state. In all members of the family who were affected it was the same pair of toes.

* "Transactions of Royal Academy of Medicine of Ireland," vol. ii.

A CATECHISM OF SURGERY; WITH CASES FOR DIAGNOSIS.

No. CXVII.—*Errors in the Diagnosis of Acromegaly.*

QUESTIONS.

1. There is great danger that the literature of Acromegaly,—as of many other new and rare diseases,—may be encumbered by cases of inexact diagnosis. How may such errors best be avoided?

2. Is it easy to appreciate in the living subject enlargements of the extremities of bones?

3. In what position in relation to true acromegaly does the disease which has been named "pulmonary osteo-arthropathy" stand?

ANSWERS.

1. First it must be remembered that true acromegaly is an extremely chronic malady, and that a period of some years is necessary before its conditions become conspicuous. Secondly, that the conditions produced are always symmetrical. Thirdly, that the face and head, as well as the hands and feet, exhibit changes; overgrowth of the lower jaw with projection of the chin being a very conspicuous feature. Fourthly, that it is unattended throughout by any signs of inflammation, and is for the most part quite painless. Fifthly, that it consists essentially in hypertrophy of bones, skin, and cellular tissue, and is not attended by any implication of joints in the least simulating rheumatism.

All cases in which swelling of the hands and feet has developed rapidly and been attended with pain, must be at once rejected as not really examples of acromegaly.

2. It is not only not easy, but it is not possible, in the living subject, in cases in which the soft parts are more or less swollen, to feel certain whether the bones themselves are or are not enlarged. Every one who has dissected specimens must have met with instances in which the impressions which he had formed during life, it may be after very careful examination, were confuted when the bone was exposed.

3. The conditions known as pulmonary osteo-arthropathy are caused by any impediment to the return of venous blood to the right side of the heart. They are usually, but not invariably, symmetrical. The condition known as club-fingers seen in cases of pleurisy, phthisis, &c., as a symmetrical condition, and now and then in cases of aneurism as a non-symmetrical change, is an example of pulmonary osteo-arthropathy. In other cases, not only the tip but the whole of the digit is more or less enlarged. Some tendency to the production of clubbed ends is, however, in all cases, a characteristic feature, and distinguishes this condition from true acromegaly. In the latter the digits are greatly increased in width, but there is no special enlargement of the tip or the nail. The appended diagram, taken from the New Sydenham Society's translation of Pierre Marie's work, well illustrates these statements, and may be suitably contrasted with the condition of the hand in true acromegaly as shown at p. 345.

No. CXVIII.—*Injury to Head—A Case for Diagnosis.*

A man aged 55, possibly the worse for liquor at the time, fell downstairs, one evening, at half-past six. He was found stunned at the foot of the stairs, but soon recovered. Not long afterwards he walked upstairs, without assistance, and got into bed. On the following day he was about his ordinary occupation, but complained that he did not feel well. In the evening, exactly twenty-four hours after his fall, he complained of his head and said that he would go to bed. He did so, again without assistance, but soon afterwards he became unconscious, and in this condition died an hour and a half later. There was no autopsy.

Diagram B. — ILLUSTRATIONS OF THE HAND IN PULMONARY OSTEO-ARTHROPATHY AND ACROMEGALY.

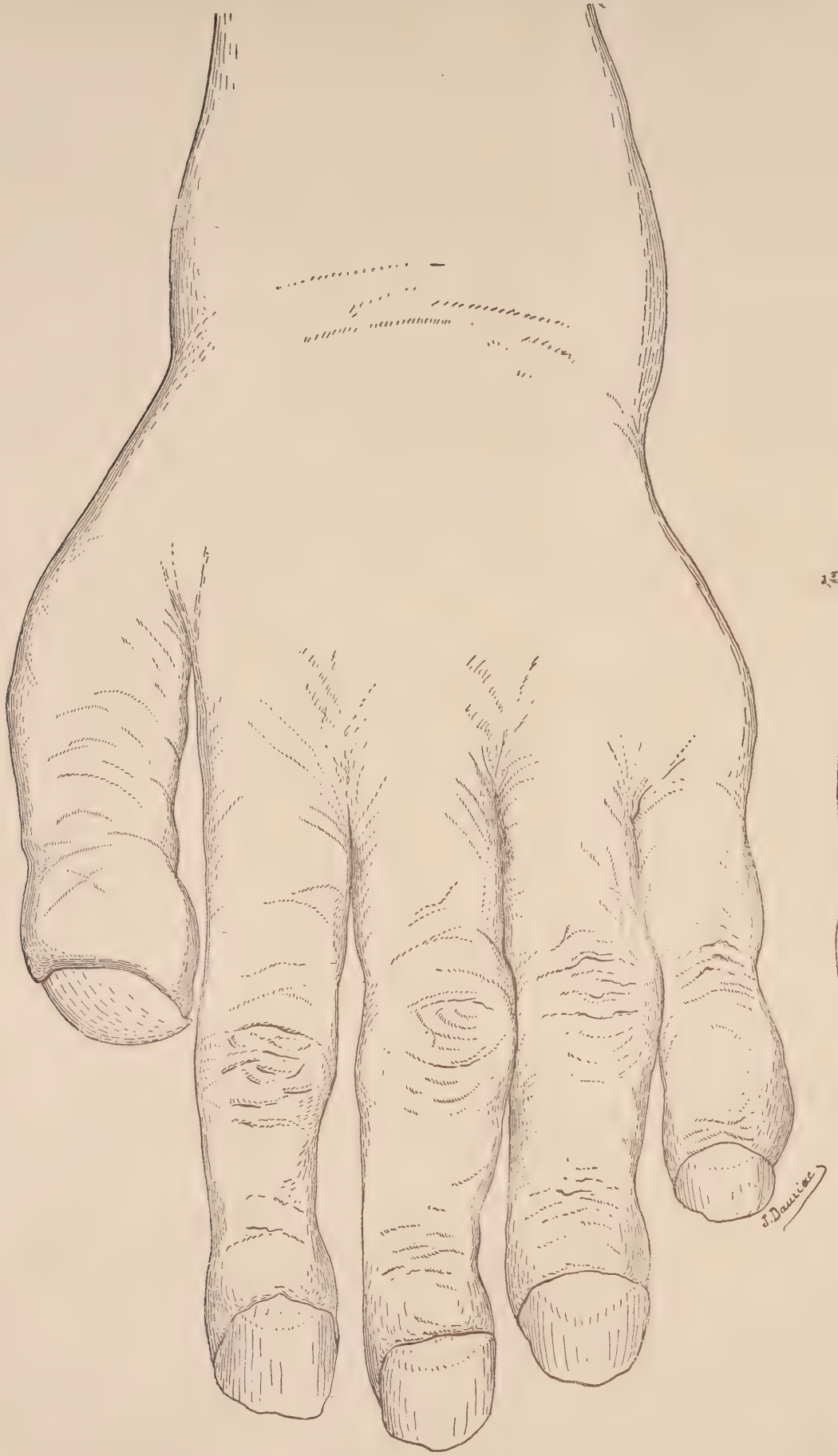


Fig. I.—The Hand in Pulmonary Osteo-Arthritis for contrast with that of true Acromegaly (copied from Souza-Leite).

Fig. II.—The hand in Acromegaly for contrast with that of Pulmonary Osteo-Arthritis (copied from Pierre Marie).

QUESTIONS.

1. What was the probable cause of death?
2. Was an Accidental Insurance Office, with which the man had insured his life, justified in disputing the policy?
3. What suggestions might be made in support of the contention that the death was not due to the accident?

ANSWERS.

1. The history of the case fits exactly with the supposition that there had been a linear fracture of the vault of the skull involving a branch of the middle meningeal artery. In these cases it is usual for the patient to recover, after the first stunning, and to show no symptoms for some hours. Under such circumstances patients have often walked home, and in some instances taken their meals as usual. The fatal attack is caused by a recurrence of arterial hæmorrhage, and the rapid formation of a large compressing clot between the dura mater and the bone. It is rarely of long duration, and in the course of an hour or two from the first complaint of headache the patient is usually dead.

2. Inasmuch as the progress of the case corresponded well, as explained above, with a well-recognized lesion, it could not, in the absence of post-mortem evidence, be reasonably disputed that the death was due to the accident.

3. It might, of course, be suggested that as the patient was elderly, and not of temperate habits, there was no improbability in the supposition that he had diseased arteries, and that hæmorrhagic apoplexy was the cause of death. The rapid, but at the same time not sudden, development of unconsciousness is, however, in favour of the diagnosis above given.

No. CXIX.—*Treatment of Varicose Veins.*

A patient seeks advice who has enormous varices in his legs. Both his saphena veins in both limbs are dilated into convoluted trunks as thick as the thumb, and easily showing both form and colour through the skin. He asserts that they are no inconvenience to him, that he can walk a dozen miles

easily, and that his legs never ache. The skin is perfectly sound. He is of middle age, and in good health. He has tried elastic stockings, but has found that they made his legs hot and uncomfortable. Moreover, he has heard from a friend, who is in similar plight, that he much regrets having taken to stockings, since he is now quite unable to walk in comfort, either with them or without them.

QUESTIONS.

1. To what causes may such varices be attributed?
2. Is the experience stated as to elastic stockings common; and ought the patient to be encouraged to wear them?
3. Ought an operation to be performed, and if so, what?
4. If neither stockings nor an operation be advised, what recommendations may still be given?
5. What dangers are encountered if no treatment be adopted?
6. How would you arrest bleeding from a ruptured varix?

ANSWERS.

1. Amongst the causes of varices, long-continued standing is one of the principal. Next, any impediment in the thigh or pelvis to the return of venous blood. Lastly, a very important element is an inherited tendency expressing itself probably in weakness of the coats of the veins.

2. Many patients obtain great relief and prevent the increase of the disease by the use of elastic stockings. The latter are, however, often found to be inconvenient and unsatisfactory. The amount of annoyance and sense of weakness which the patient experiences without them may be taken as some guide as to their necessity.

3. The simplest and best operation is the excision, with strict antiseptic precautions, of long portions of the dilated veins.

4. The patient should be advised to walk as much as he comfortably can, but to avoid standing. He should as often as convenient lie flat down with the legs elevated. He should wear closely fitting stockings and may try the effect of elastic garters below the knee. All sources of impediment to the

return of blood should be carefully attended to. He should keep his bowels open.

5. The chief danger attending varicose veins is that of rupture. There is also a risk that thrombotic phlebitis may occur. This, although in the end a curative process, may entail much temporary inconvenience and some little danger from displacement of clot.

6. All patients who have large varices and are in danger of rupture, should be instructed that if this occurs they must instantly lie down and elevate the limb. The next measure is the application of a compress and bandage.

No. CXX.—*Portrait for Diagnosis.*

What condition is to be recognized in the above portrait? What is the probable course of such a case?

ANSWER.

The portrait shows great enlargement of the left cheek. As the patient is young it is probably due to a congenital tumour of the nævoid cystic class. Such tumours often consist of venous and serous cysts, with intervening fibrous tissue. They are prone to inflame, and after acute inflammatory swelling may shrivel and almost disappear. On this account operative treatment should be deferred, at any rate, for a time.

No. CXXI.—*Anæsthetics.*

QUESTIONS.

1. What are the reasons for preferring, as a general rule, ether to chloroform?
2. Under what circumstances is chloroform to be preferred to ether?
3. What are the inconveniences of ether-administration?
4. What apparatus is best for the use of ether?

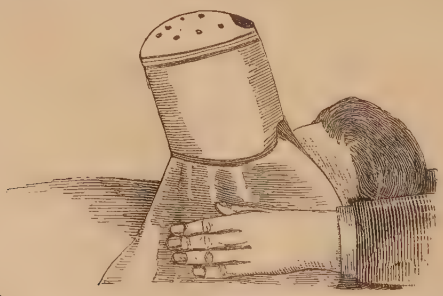
ANSWERS.

1. There are good reasons for believing that, in the human subject, failure of the heart's action is not nearly so liable to occur with ether as with chloroform.

2. In elderly patients, in very young patients, in those who are the subjects of any lung embarrassment, chloroform is preferable to ether. So also in cases of abdominal tumours, and especially in prolonged operations for intestinal disease, it has been thought that chloroform has advantages, and is less liable to be attended by after-sickness.

3. Unless it be administered by a proper apparatus, and by an experienced person, it is sometimes difficult to get the patient under its full influence. More time is occupied than with chloroform, and the anæsthetic, on account of the far larger quantity used, becomes much more expensive.

4. Putting aside complicated forms of apparatus as suited only for specialists, a simple leather cone, such as that



represented in the appended woodcut, is the best for general use. Take a clean towel, so folded as to be eighteen inches square. Inside this put a large sponge, and then thrust the

whole into the leather cone. The towel is to overlap the patient's face in all directions, and the administrator should hold the apparatus by the outspread edges of the towel, and not by the cone. By this means the cone is kept in place in spite of all movements of the patient's head. The sponge should be soaked with ether before the apparatus is applied, and subsequent supplies put in freely through a hole in the top of the cone.

No. CXXII.—*Anæsthetics.*

QUESTIONS.

1. In the use of the apparatus described in the preceding answer, the patient's face is wholly concealed. Is this a disadvantage?

2. In the administration of ether in the manner suggested, is it necessary to provide that the patient shall occasionally take breath without inhaling ether?

3. Is it a good plan to give chloroform and ether in mixture?

4. If ether and chloroform are given separately to the same patient, which ought to be given first?

5. How would you avoid sickness in the use of anæsthetics?

ANSWERS.

1. It is not in the least necessary to see the face whilst giving ether. All that the administrator has to do is to see that the patient continues to breathe.

2. The apparatus should be kept in position without removal for one moment throughout the administration. Sufficient air will pass through the perforated cone.

3. Mixtures of chloroform and ether are very efficient, and that known as the A.C.E., consisting of alcohol, chloroform, and ether, as recommended by the committee of the Medico-Chrirugical Society some years ago, is a very convenient one.

4. The ether ought always to precede the chloroform, since it prevents the failure of the heart's action, which is the chief cause of fatality with the latter anæsthetic, and often occurs very early in the inhalation.

5. The avoidance of sickness is secured best by insisting that the patient shall take no food whatever for four hours before the administration. This fast should be religiously observed.

No. CXXIII.—*Diagnosis by Physiognomy.*

Does the above portrait suggest the diagnosis of any special malady?

ANSWER.

It is to be admitted that the transference of the portrait from the photograph has not been very successfully accomplished. It will be observed, however, that the lower eyelids and upper parts of cheeks are much thickened. The photograph shows well the solid œdema of these regions which is characteristic of cases of recurring erysipelas of the face. In this disease a slight form of elephantoid hypertrophy is finally produced. The attacks of erysipelas are transitory, but recur every few weeks.

No. CXXIV.—*Anæsthetics.*

QUESTIONS.

1. To what do you chiefly attribute the accidents with anæsthetics, which are still unfortunately so frequent?

2. Is it probable that chloroform as an anæsthetic involves dangers from which ether is free?

3. What precautions should be observed in the administration of chloroform?

4. What is the best form of apparatus for the use of chloroform in the hands of those who are not specialists?

5. What remedy ought the chloroform-administrator to have always with him?

6. Do you consider that chloroform deaths occur especially in those who are feeble or the subjects of disease?

ANSWERS.

1. First, to neglect of the rule that the patient should have an empty stomach at the time of administration. Secondly, to insufficient attention on the part of the administrator to the first warnings of danger. Thirdly, to not having the proper restoratives at hand, and to inefficient attempts at artificial respiration.

2. It is probable that in the human subject chloroform does run the risk of inducing a fatal failure of the heart's action, quite independently of disease.

4. The best form for those not specialists in the use of anæsthetics, is simply a small piece of lint. Upon this the chloroform should be sprinkled from a drop-bottle. All forms of apparatus more or less conceal the patient's face, and prevent that careful observation of the varying state of the circulation which is of such great importance. They also induce a delusive feeling of security. With only a bit of lint in his hand, the operator realizes that he has nothing to depend on for safety but his own careful observation of symptoms; and such observation is in every way facilitated.

5. Capsules of nitrite of amyl ought always to be at hand for inhalation in case of heart-failure.

6. Many, perhaps most, of the deaths occur to young and healthy persons, and in cases in which no anxiety had been felt.

No. CXXV.—*Diagnosis by Physiognomy.*

What does the physiognomy in the above portrait suggest?

ANSWER.

The chin projects strongly and is very large. The whole lower jaw is much out of proportion to the rest of the face. This condition is one of the most valuable symptoms of acromegaly. The diagnosis of that disease is confirmed by observation of the size of fingers and hands. (It must be admitted that for the latter purpose such a portrait is not wholly trustworthy.)

No. CXXVI.—*Graves' Disease.*

QUESTIONS.

I find in the writings of a very distinguished physician the expression, "I regarded the case as one of ex-ophthalmic goitre, without exophthalmos and goitre."

1. If this be not a printer's error, what may it be supposed to mean?

2. What are the principal symptoms of Graves' disease, independently of enlargement of the thyroid gland and of prominence of the eyeballs?

3. What are the most important measures in the treatment of Graves' disease, whether threatened or complete?

ANSWERS.

1. The expression is probably printed as it was written, and although perhaps a somewhat awkward one, it is intended to express a great truth. We are too much in the habit of insisting that certain conspicuous symptoms shall always be present before we permit ourselves to diagnose certain special diseases. The truth is that such symptoms often belong only to extreme and exaggerated examples of the malady in question; and that partially developed cases are really very frequently met with. Thus it may easily be conceived, and is indeed extremely probable, that many patients display a tendency to Graves' malady who never exhibit either proptosis or bronchocele.

2. Changes in temper, great irritability, anæmia, liability to palpitation, are symptoms which, when they occur to a person previously in good health, may imply a condition of the nervous system allied to that which is of the essence of Graves' disease. Under such conditions the state of the eyes should be carefully observed, and the neck should be examined.

3. The symptoms which constitute this malady are for the most part indicative of grave functional disturbance of the nervous system. They are combated for the most part very ineffectually by the use of drugs. The rational indication is for an immediate and complete change of external circumstances. The patient should, if possible, be at once sent from home, and either to a bracing seaside place or to mountain air. This recommendation is especially important if the case be severe, and if it has resisted drug treatment. Perhaps the most irrational measure that could be adopted, is to confine such a patient in the wards of an hospital.

No. CXXVII.—*Portrait for recognition of disease.*

What disease is suggested in the above portrait?

ANSWER.

The portrait shows falling down of the lower part of nose with extensive loss by ulceration of the tip, alæ, and upper lip. Cicatrisation appears to be sound. The disease is certainly not Lupus vulgaris, since that disease eats away the tip and alæ but does not cause falling in. The limitation of the disease and the sound cicatrisation are also strongly in opposition to such a diagnosis. The physiognomy is characteristic of the ravages of syphilitic phagedœnic ulceration, and especially of that form of it which often occurs from inherited taint. No doubt the septum, and possibly the palate also, have been in part destroyed.

No. CXXVIII.—*Hysteria and Factitious Diseases.*

QUESTIONS.

1. What is meant by the expression, "Simulation of hysteria by organic disease"?

2. What is a factitious disease ?

3. Under what circumstances are factitious diseases usually met with ?

ANSWERS.

1. We owe this luminous expression to Dr. Buzzard. It is intended to draw attention to the most important fact that there is very frequently, perhaps usually, some form of organic disease present in cases which are diagnosed as hysteria, or perhaps more correctly, that certain forms of organic disease may evoke the characteristic symptoms of hysteria. Hysteria may be defined as a state of health in which want of balance of certain nerve functions is easily induced, the disturbing cause having usually a close relation to the sexual system. Thus a not inconsiderable proportion of young persons of both sexes, but especially females, are to be considered as in greater or less degree prone to hysteria ; and whatever weakens the nerve tone is likely to be attended by its phenomena. Almost all forms of chronic organic disease entail such liability, and the symptoms of hysteria becoming very prominent may easily mislead the incautious practitioner into overlooking the real malady.

2. A factitious disease is one induced by the patient intentionally. The object is usually to excite sympathy, to escape work or penalties, or sometimes the mere pleasure of deceiving, and of claiming the interest of others.

3. Factitious diseases usually come under our notice in young persons, and chiefly in young girls, and as a rule in those who exhibit other phenomena of hysteria. Often, however, they occur under circumstances which afford no sort of clue to the patient's motive. In some instances the intentional exaggeration of subjective symptoms, which have a basis in reality, amounts almost to the production of a factitious or feigned disease. The skin offers the most obvious field for the production of factitious symptoms of the objective class ; and the practitioner must be constantly on his guard in reference to certain erratic forms of Dermatitis. The shape of the patches, their arrangement, and the conditions under which they relapse and recur, are the symptoms which usually aid the diagnosis.

No. CXXIX.—*Diphtheria.*

QUESTIONS.

1. How has the term "Diphtheria" chiefly been used in the past?

2. How do you explain the supposed increase of diphtheria in modern times?

3. Are the cases of diphtheria now so frequently admitted into our hospitals usually brought from localities where the disease is epidemic?

4. Is it probable that diphtheria may develope spontaneously?

ANSWERS.

1. The term "Diphtheria" means simply membranous or pellicular, and has been applied to most forms of inflammatory action attended by a pellicle. Whilst it has been used chiefly in reference to the throat, it has been applied also to wounds, to a condition assumed by blistered surfaces, to a form of ophthalmia, and to certain inflammations of the vagina and uterus. It is used far more widely in Germany than in England. In England an attempt (a mistake) has been made to limit its use to throat inflammations attended by membrane and occurring in epidemics, and to group it with the specific fevers. It would probably be safer to disuse the term, and to speak of diphtheritic inflammation of this or that locality.

2. The term "Diphtheria" has no doubt been used much more freely of late than it was some years ago. There is probably no good reason for believing that the diphtheritic type of inflammation is now more common than formerly.

3. It is probably true, in a large majority of the cases in which children are admitted for tracheotomy into our hospitals with well-characterized diphtheritic inflammation of pharynx and trachea, that there is no history whatever of epidemic disease around their homes.

4. It is highly probable that pellicular forms of pharyngitis may arise *de novo* in connection with exposure to cold, and that they belong to the catarrhal group of maladies. The products of such inflammatory action may, like those of other

forms of catarrh, become the means of contagion, and thus epidemics may be bred.

No. CXXX.—*The Diagnosis of Vesical Calculus.*

QUESTIONS.

1. "The diagnostics of the *stone in the bladder*, are a sense of heaviness in the perinæum and inguinal region, a perpetual and troublesome desire of making water, which is preceded and followed with a sharp pain, and an itching principally in the glans of the penis, whence a prolapsus of the anus; and an inclination to go to stool during the discharge of urine; the urine's coming away by drops, or stopping suddenly when it was running in full stream; the patient's passing the urine more easily when lying than in an erect posture; a kind of convulsive motion occasioned by the sharp pain in discharging the last drops of the urine; a white, thick, copious, stinking, mucous sediment in the urine; and a violent pain in the neck of the bladder upon motion, especially on horseback, or in a coach on a rough road."

The above description is extracted from a popular Encyclopædia of about a century old. In what respects can modern surgical criticism suggest improvements?

2. The following is an extract from the letter of an intelligent patient. Can any other diagnosis excepting that of stone be suggested?

"I have been troubled with pain, sometimes feeling to be in the neck of the bladder and along the canal for the exit of the water, especially when I make water, at other times it is a sort of gnawing pain in the region of the bladder; it is never severe, but worse when walking about. When I keep still, even standing, I feel very little of it, or first thing in the morning it is quite easy, and the water coming causes no pain, but after a little walking it generally comes on again. My water is generally quite proper, but sometimes very dark, the colour of coffee, for once or at the most twice making water, then all right again, and I think I have made out that it is generally, at all events, after walking a fair distance that this occurs. I have generally no difficulty in making water, but

a twinge of pain during the operation. In other respects my health is good, and I feel in every way quite equal to go about as usual, except for this pain, which, as I before said, is never severe, but quite bad enough to be very annoying. It seems to be the shaking that brings it on; riding on wheels generally is comfortable, except on rough roads, when it is the same pretty much as walking. A while ago I did think it was getting better, but the last week or so I think it has been, if anything, the other way. Perhaps I have got a little cold."

ANSWERS.

1. The description is an excellent one, but it applies to a class of cases of which surgeons in the latter part of the nineteenth century fortunately see but little—that is, to a neglected and advanced condition. Thus the stinking urine with phosphatic sediment is now very rarely encountered, for the diagnosis is made and the cure effected before cystitis sets in. "The urine's coming away in drops" is a symptom rather of stricture or enlarged prostate than of stone. The explanation of the prolapsus ani is vague. In all other respects the description is admirably concise as applicable to a case of large stone.

2. It would not be easy with such a description to make any mistake. This letter may serve as a supplement to the description given above, since it applies to the pre-cystitis stage of stone, that in which most patients now come under treatment.

PLATE XLVI.

ICHTHYOSIS IN UNILATERAL STREAKS.

These two portraits give a back and front view from the trunk of a girl of twelve named Cook, who was under my care in 1870. The spots had not been observed at her birth; they had not indeed attracted attention until she was three or four years old, after which it was believed that they had definitely increased. A younger brother was stated to have similar streaks, but yet more marked. It will be seen that the spots are wholly confined to the left side, and that they are arranged very much like herpetic clusters. They were brownish, and very slightly papillary. They were, however, but little raised, and gave her no inconvenience. Although not observed at first, there can be little doubt that they were potentially congenital.

I have published several other portraits illustrating the arrangement of these one-sided papillary and pigmented streaks. The reader is referred to Plates I., II., and XLV., and to the descriptions which accompany them.

West, Newman chromo.

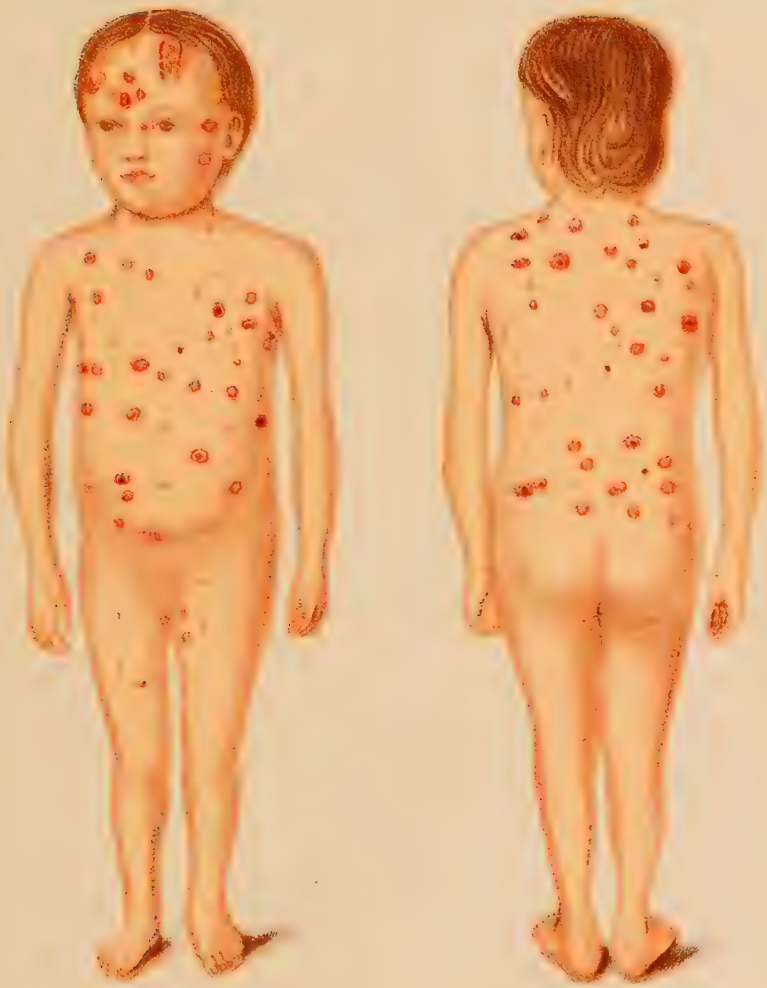
PLATE LXVII.

VARICELLA GANGRENOSA.

In this Plate we have a portrait showing the back and front view of a child who was the subject of gangrenous varicella. It must be taken chiefly as indicating the distribution of the eruption and its relative severity in different parts. It will be seen that it affects the face most severely and next the trunk, the four extremities being almost exempt.

The subject of the case was a child named Emily Stevens, aged two years and a half, who was under observation in February, 1880. She afterwards made a good recovery. It will be noticed that on many of the varicella spots a portion of skin has sloughed and become black; in others the condition is one rather of necrotic ulceration than actual sphacelus.

See 'Medico-Chirurgical Transactions,' Vol. LXV., page 1.



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APPENDIX.

THE HUNTERIAN ORATION.

DELIVERED IN THE THEATRE OF THE ROYAL COLLEGE OF SURGEONS, FEBRUARY 14TH, 1891.

BY JONATHAN HUTCHINSON, F.R.S., LL.D.

MR. PRESIDENT AND GENTLEMEN,—It is to the credit of our human nature that we do not easily tire of listening to the story of the lives of the great and good. It is to the honour of John Hunter that the narrative of his life, the account of what he did, and of what he aimed at doing, is one of which we, his disciples, are never wearied. That narrative has been told to you over and over again, and by those of far higher skill than myself, for this is, I believe, the fifty-fifth Hunterian Oration. Yet, were I to dare to take another topic, and to omit the story which we have so often heard, I feel sure that it would be to the disappointment of you all.

There is, however, another duty which I must discharge before I proceed to my principal subject. "In honour of surgery, and in memory of men by whose labours it has been advanced." Such, Mr. President, are, I believe, the words which have been used in describing the objects of this Oration, and it has been generally considered that they leave your orator at liberty to speak, not only of John Hunter, but also to mention, by way of commemoration, any others whom we have recently lost, who have sought to tread in his steps. In turning to this melancholy

yet pleasing duty, it is not my intention to attempt any exhaustive list of the servants of science who, since the last Biennial Oration was delivered, have fallen out of the ranks of the medical profession. The list is too long, and choice would be too invidious. I shall ask your attention only to two representative names. In Dr. Matthews Duncan — a fellow-countryman of Hunter's — the public lost a trusted adviser, and the profession one whose skill and honesty were alike highly appreciated. A firm, self-reliant man, who yielded his opinions to no one, Matthews Duncan was very successful, not only in private practice, but as a teacher in the largest of our metropolitan schools. He was not in any association with our College, but was a frequent attender in this theatre, and was a benefactor to our museum. He has passed from amongst us, mourned by all who knew his worth. The loss which this College and the science of surgery have sustained in the death of John Marshall is so great and so recent, that I can hardly trust myself to speak of it. As a teacher, both of anatomy and surgery, Mr. Marshall's claims were high; but at this College we knew him best as the sagacious and ever vigilant friend of medical education. It is not too much to say that, in the work of the last quarter of a century, Mr. Marshall's life has become woven into the very constitution of this College. At the time of his death he was our representative in the General Medical Council, and the President of that body. In the negotiations which led to the joining of our College with the College of Physicians, for the purpose of examination, Mr. Marshall took a large share. Had his life and health been spared a few years longer, he would, doubtless, have engaged with great interest on his part, and advantage on ours, in the arrangements for the five years' curriculum, and in those for the development of University life in London. He was the author many years ago of an

important memorandum on medical education, in which he advocated more frequent examinations as likely to be helpful to the student, and his labours in this direction were not unproductive of results. A strong, clear common sense, an excellent command of language, unsparing diligence in the mastery of details, with entire absence of egotistical self-assertion, such were, I think, some of the prominent characteristics of John Marshall's mind. I must not omit to state that he was Professor of Anatomy to the Royal Academy, and enjoyed a good reputation as a judge of Art. To few men has it been given to close a long life devoted to public duty, with more unanimous applause and regret.

In turning now to Hunter's life, I shall have to ask your forbearance if I attempt only some fragmentary notes and comments. The time at my disposal does not well permit of more, and I am sure that I may assume that the outlines of his biography are well known to you all.

The Hunterian Oration might with propriety be given in honour of the Hunter family, rather than of one of its members. I may go further, and say that it should not forget the Paul family either, for Paul was the maiden name of the mother of William, James, and John Hunter, and of the grandmother of Joanna and Dr. Matthew Baillie. We must not only consider the genial influence of a mother in the training of her sons, we must remember also her blood. It did not count for nothing, in respect to one of the greatest religious reformations which the world has seen, that Mahomet was the son of a Jewess. It is doubtful, perhaps, whether the annals of biography can produce a more striking example of the production of what we may call family-genius than that which resulted from the marriage of John Hunter and Agnes Paul.

Their son James died young. It is said that he had already given promise of achievements which would, at least, have equalled those of either of his two brothers who

lived to become famous. In speaking of the biography of a biologist, of one who himself took the keenest interest in the laws of hereditary transmission,—above all in speaking before an audience of biologists by profession,—I cannot think that it is out of place to ask attention to the facts which I have adverted to. May I venture on the practical suggestion that it would be a matter of social convenience, great help to biographers, and at the same time a mere act of justice to the maternal parentage which all share, if the maiden name of the mother were always prefixed to that of the father? Thus, for one generation at least, we should recognise that our mothers have, with our fathers, an equal share in the credit accruing to the family name from the deeds of their children. Under such a plan we should have a William Arden-Shakespeare, a John Jeffrey-Milton, a John Paul-Hunter, and a Matthew Hunter-Baillie.

John Hunter's brother William was exactly ten years his senior, and died just ten years before him, each having enjoyed a life of sixty-five years.

William Hunter, when quite a youth, pledged himself to his friend Cullen, that he would make his home, Long Calderwood, famous. He nobly fulfilled his promise, but he yet failed of the guerdon, simply because a brother, ten years his junior, of whom at the time he made no account, out-stripped him and did it first. John was the first to be elected into the Royal Society, yet had there been no John Hunter, William would have been accounted a genius. His fame was, and is, deservedly very great, but his brother has eclipsed it. The similarity in the tastes and endowments of the two brothers was indeed remarkable. Both were resolute to base practical knowledge upon anatomical and physiological research. Both zealously taught anatomy. Both were indefatigable collectors of facts, and both made large museums. That got together by Dr. Hunter, and which he bequeathed to the University of Glasgow, is

probably, as the work of an individual, second in value only to that which is our priceless possession here. If William displayed, perhaps, less of concentration of aim, it was possibly due to yet wider universality of tastes. He collected not only specimens in pathology and anatomy, but pictures, coins, and curios of all kinds. For some of these John also had desires, but as compared with his brother his energies were much more nearly restricted to biological objects. It must, perhaps, also be admitted that, although of almost equal energy and industry, William enjoyed, in somewhat less vigour, that faculty of insight which was the secret of much of John's success.

It is not enough, however, to claim that part of the credit which attends the manifestation of genius should be given to the parents and predecessors of the individual concerned. Biology knows but little of hero worship, and all departures from its fundamental truths are unwise and mischievous. In proportion as we lose sight of the means by which really great men became what they were, do we fail to learn the full lesson of their lives. To take a great man and treat his career not as representative but as phenomenal, to place him on a pedestal and claim for him the almost exclusive plaudits of his successors, is to rob his life of half its usefulness. The domain of science, as that of letters, is a republic. We crown no kings, we know nothing of oligarchs.

It has been too much the custom of Hunter's biographers, (not, I gladly admit, of all), to represent him as the uneducated and uncouth son of a Scotch farmer, and as having been brought up for the trade of a cabinet maker. Mr. Luther Holden, in his excellent Oration ten years ago, did much to correct these misapprehensions. Briefly, his maternal grandfather was the Treasurer of Glasgow, and his father was of an old family, the Hunters of Hunterston. Here again biology may come to the aid of history. Surely it was not

without its meaning, in reference to hereditary descent, that both the Hunter brothers suffered in early life, and through life, from that disease which has been named not only the *Dominus Morborum* but also the *Morbus Dominorum*, and of which it has been well said that it destroys "more wise men than fools." Surely we may take the inheritance of gout, thus strongly manifested, as more conclusive proof of gentle blood than any which parish genealogies could possibly afford. I may add, in support of what I have just said as to the importance of not forgetting our mothers, that it is as likely that the inheritance came from the Glasgow Treasurer as from the farmer of Long Calderwood.

The times in which Hunter lived were those of which Voltaire said, "Much has been written in this age, but genius belonged to the last."

Hunter was born a few years after the death of Peter the Great, and one after the accession of George II. The battle of Culloden was fought when he was sixteen years of age and when he was living in Glasgow. It was not long after his coming to London that he heard of the terrible earthquake at Lisbon. Almost the whole of his forty years' London career was during the first half of George III.'s reign. It included the miserable wars with the French in Canada, India and Europe. The disasters of which the Black Hole of Calcutta was an incident; the trial and execution of Admiral Byng; and the triumph and death of General Wolfe on the heights of Quebec, must have been topics of conversation at Hunter's dinner-table. The whole of the American War of Independence was accomplished, and peace declared, ten years before his death. The death, from small-pox, of Louis XV. occurred when Hunter was nearly fifty, and his unfortunate successor, after a reign of nineteen years, fell on the scaffold, just six months before Hunter's own tragic end in the board-room of St. George's Hospital.

Voltaire himself was thirty years older than Hunter, whilst Goëthe, who alone may be held to have subsequently disproved the scornful statement which I have quoted, was twenty years his junior.

Hunter's birth-year was exactly a century after the death of Bacon, and also after the publication by Harvey of his work on the circulation of the blood. Sydenham had been dead nearly forty years; and Wiseman, the father of English surgery, and the surgeon to some of our Stuart kings, had been Sydenham's contemporary. Ambrose Paré, who in France had held the position of Wiseman with us, and with still more honour, was of an earlier generation. He had been born more than two centuries before Hunter, and he had been in his grave nearly as long at the time of the latter's death. Newton had died the year before Hunter's birth.

The versatile, industrious, and most prolific Haller was just twenty years his senior, and was appointed, when Hunter was a boy of ten, Professor at once of Medicine, Anatomy, Botany, and Surgery in the University of Göttingen. Almost in the same year there died at Leyden, enormously rich, the renowned Boerhaave, who had done much sound work in many directions.

Of Hunter's professional contemporaries it may be sufficient to briefly state that when he came to London he found Cheselden, although well on in years, still at work, and Percival Pott in full practice. It was not until the death of the latter in 1788, that Hunter himself succeeded to the position of the leading London surgeon. In France, Petit died within two years of Cheselden, and not many after Hunter's coming to London. Desault was throughout his career Hunter's contemporary, whilst the name of Dupuytren belongs, of course, to a later generation. In Leyden, Peter Camper, six years Hunter's senior, ran a laborious career, parallel with that of the latter, devoting his energies to

similar pursuits, and with a success which might almost justify comparison.

Amongst those whom Hunter may have met in London were Wesley and Wilberforce, Adam Smith, Benjamin Franklin, Reynolds, Johnson, Grose the antiquary, Erasmus Darwin, Priestley, Banks, and Benjamin West. With the last two there is reason to know that he was intimate.

If we ask as to Hunter's immediate predecessors in the study of natural history, it is to be noted that Grew and Ray, our great English botanists, were both born in one and the same year. That year, 1628, was exactly a century before John Hunter's birth. Ray wrote and collected in zoology as well as botany. The French naturalist, M. Buffon was born in 1707, and died in 1788. He began the publication of his great work on Natural History (forty-four volumes) in 1749, and the first thirty-five volumes were accessible to Hunter before the year 1788. In them the dissections and anatomical descriptions were chiefly by Daubenton. Whether Hunter possessed Buffon's works, or had even seen them, I do not know. Valuable as they unquestionably are, they do not display any material traces of that genius for systematic observation and scientific grouping of facts which is the special glory of Hunter's work. Hunter's true competitor in these respects was undoubtedly Cuvier. Although much of Cuvier's work was done independently of that of Hunter, and probably without knowledge of it, yet it was all subsequent in point of time. Cuvier visited London in 1813, and saw Hunter's museum after its removal to our College. He investigated its treasures with delight, and took back with him to Paris drawings of many of the specimens.

To this list of botanists and naturalists who were Hunter's contemporaries the name of Linnæus must be added. He was Hunter's senior by twenty years, and died fifteen years

before him. I have not been able to find any evidence of their ever having met.

Whatever may be our conclusion as to his descent, it is, as has been pointed out by several of my predecessors in this function, a great mistake to class Hunter amongst self-taught men. From the time that he came to London, when scarcely twenty-one, he occupied a position in his brother's home and in his anatomical school, which afforded unequalled opportunities. It is possible, but not certain, that before coming to London he had wasted two or three years by working as a cabinet-maker in Glasgow. Mr. Holden, in his oration, tried to convince us that it was more likely that these years were spent in the class-rooms of Glasgow University, but the evidence was not conclusive. Be this as it may, however, there is no doubt that he had in boyhood received a good Scotch education in elementary matters, and that during his Glasgow life he must have had fair opportunities for its further development. I find it incredible that a brain so active, with such a thirst for knowledge and such a love of thought, could have been guilty of any material self-neglect during boyhood and adolescence. The child is father of the man; and I cannot doubt that John Hunter, as a boy at home and as a youth in Glasgow, displayed similar tastes and like aptitudes to those which attained such splendid development in his after-life. He may have earned his wages in his brother-in-law's workshop, but he never was and never could have been a carpenter only.

Of Hunter's career in London, and of his daily habits in life, we possess many illustrative facts. Some of the anecdotes which are told of him have no doubt been heightened in the telling. I have pleasure in being able to take off the edge of one, which is quoted in almost all his biographies, to the effect that he made an appointment with a student for a morning-call at 4 o'clock. On referring to

Mr. Leigh Thomas's Hunterian Oration, I find that he himself was the student in question, and that the hour was not four, but five. It is quite possible that even Mr. Thomas's statement has received a little unconscious emphasis. That Hunter was an early riser there is, however, no doubt, and probably equally little that he was capable of contenting himself with but short hours of sleep. The impression obtained, however, from a diligent perusal of such fragments as are extant will, I think, leave upon the mind of the reader the idea that John Hunter, in these respects and some others, conformed more closely to ordinary custom than some would have us to believe. It would appear to have been his habit to avail himself of the morning daylight for his dissections. From nine to eleven he saw his patients at home. At eleven, unless hindered, he went out on his rounds, and to visit the hospital. At four he returned to dinner, and after dinner he usually slept for an hour. The evening was devoted to dissections and writing. Hunter was, we may suspect, not a great letter-writer, and his correspondence was probably as nothing compared to that which, in these days of the penny-post, constitutes, to many of us, the burden of life. If we may take as an example his curt references to a case of fungus cerebri respecting which Dr. Jenner had consulted him, he did not enter into much detail in reference to the patients concerning whom he gave advice. Three letters give scarcely as many lines each to the boy's case, whilst whole pages are devoted to questions about cuckoos, hedgehogs, and experiments on the heat of trees.

Although John Hunter was in all respects far removed from sentimentalism, and was even on occasions rough in manners, yet many anecdotes reveal him as a man of warm heart. His friends, although they were possibly not a very wide circle, were devotedly attached to him. The laconic letter with which he introduced a gratuitous patient to his

brother—"He has no money, and you have plenty, so you are well met"—gives testimony to his creed as to the right use of riches, at any rate by others. I may add that the whole course of his life proves that it was one which he adopted for himself. When a kind action was to be done, or science could be advanced, Hunter regarded not money, and he put a final seal upon his faith by dying poor.

That he did not disdain common amusements, and at the same time that he was not exempt from emotional tendencies, we learn from an anecdote which, solely with a view to its physiological lesson, he relates of himself. He went to see Mrs. Siddons act, being sure that he should be compelled to weep, but discovering when he got to the theatre that he had no pocket-handkerchief with him, the effect of this disturbing knowledge was such that throughout he felt not the slightest tendency to shed tears.

Of Hunter's personal appearance I shall not say anything, for his portrait from the hand of a master hangs before you, depicting, as was finely said by Abernethy, "the act and attitude of habitual thought."

One of Hunter's secrets of strength was his patience. He speaks of having listened for an hour to the complaints of a gentleman who consulted him for impotence; and of having spent a whole night in thinking over a case of fractured patella. At another place we find him alluding to the thoughts which came to him at the fireside. He was not one of those who draw a strong distinction between business and pleasure, and who regard all that relates to the pursuit of professional knowledge as belonging to the former. I suspect, rather, that his times of highest enjoyment were those in which he was most keenly in pursuit of surgical investigations. These were not to him merely the means of earning money, they were matters of the most real and deep interest; and excepting from sheer fatigue, they were never laid aside whether on holiday or at work.

Hunter displayed a remarkable union of self-confidence and self-distrust. As regards his fellow-men and their published opinions, he was self-confident in the highest degree; before Nature and her facts he stood in humble self-distrust. While he saw clearly the weakness and fallibility of the one, he at the same time realised the vastness and complexity of the other.

I have not found any evidence that Hunter himself possessed artistic skill. He was fond of pictures, and valued himself on his appreciation of them. He possessed at the time of his death a very fair collection, one which sold for nearly £2000. It contained works by Hogarth, Reynolds, Loutherburg, and others, and it would—according to a valuation which one of Christie's firm gave to Sir James Paget, from whom I take these particulars—at the present time have been worth at least £10,000. There are hints in some of his letters that he not only bought pictures, but sometimes sold them again; and he several times alludes to their price and to the state of the art market. Those who occasionally frequent picture auctions, and are fond of cheap bargains, have at any rate a right to plead that in this weakness John Hunter gave them example. His brother William of course bought much more expensively, being a far richer man. A point which interests us much more deeply is to note the value which both the brothers set upon artistic illustrations of anatomical and pathological subjects. Dr. Hunter's splendid plates of the gravid uterus are well known. In the early editions they were published without regard to expense, and they are but a small part of what had been executed, under his direction, of a similar kind. John Hunter never published a single paper or book, the subject of which would admit of illustration, without accompanying his letterpress with a liberal supply of plates. He clearly regarded a drawing as coming next in value to the prepara-

tion itself, and as being essential to the full instruction of his reader. Our College possesses, in three large volumes which are now before me, the original drawings from which most of the illustrations published in his works were taken, together with many others. Most of them were probably from the pencil of Mr. Bell, an artist whom Hunter engaged to live with him in the house, so as to be always at hand. The original engagement was for twelve years, but was subsequently prolonged to fourteen. Bell was not an educated man, but was very skilful and painstaking in the kind of art which Hunter wanted. He was not by any means the only one who was employed for this purpose. I find that not a few of Hunter's best plates are signed by Reemsdyck, an artist who published, on his own account, a valuable folio illustrating some of the contents of the British Museum. We can understand the pleasure with which Hunter would have hailed the introduction of photography, in aid of scientific illustration. His zeal in these matters was caught by his nephew Baillie ; and even up to the present day, with all our successes in colour-printing, no more valuable illustrations of morbid anatomy exist than the series of engravings which Dr. Matthew Baillie published during the first years of this century.

I cannot let the occasion pass without the remark that, were Hunter with us now, he would take a foremost part in the scheme which the Council of this College has in hand, to supplement the noble collection of anatomical and pathological preparations, of which his Museum at present constitutes the centre, by an equally extensive collection of drawings and casts in illustration of those departments of surgical knowledge, clinical or otherwise, which cannot be displayed by other methods. Of such objects, John Hunter left behind him a considerable collection. His brother, Dr. Hunter, said of pictorial illustrations that they served the purpose of a universal language, since all could

read them, adding, respecting his student days, "I then learned a good deal by my ears, but almost nothing by my eyes, therefore hardly anything to the purpose."

In the year 1773, Hunter took a large and probably the principal share in the formation of a medical society of observation. In this his chief associate was his friend Dr. Fordyce. Only three volumes of 'Transactions' were, I believe, published. They were very freely illustrated by excellent engravings. Of the seventeen papers which constitute the first volume, nearly half are by members of the Hunter family, John Hunter himself, Sir Everard Home, or Dr. Baillie. [By a curious coincidence two of the members of this small society bore the name of John Hunter, and in each instance that name was followed by the letters F.R.S. One was surgeon-general in the army, and the other a physician in the navy. Each is the contributor of more than one paper in the first volume of these 'Transactions.' Not unnaturally some confusion has arisen from this circumstance, and the papers of Dr. John Hunter, F.R.S., have occasionally been quoted as if written by Mr. John Hunter, F.R.S.]

In connection with the mention of this society, which held its meetings in Hunter's rooms, permit me to remark upon the zeal which he always displayed for the record of all observations in print or, at any rate, in manuscript. He was a prolific author, and he left behind him many volumes of notes. It is said that a cart-load was destroyed by the unfortunate proceedings of Sir Everard Home. No one ever better appreciated the maxim of Juvenal, one which should be kept in mind by all note-takers—

"Stulta est clementia
Peritūræ parcere chartæ."

It may seem a bold step to seriously compare Hunter with Aristotle. Unquestionably our countryman was far behind the Greek in the breadth of his attainments and

sympathies. He could make no pretension to the encyclopædic range of knowledge and of insight, which was the glory of the son of the Stagira physician. The one was at home in the study of the deepest problems of metaphysics; the other, somewhat the reverse. Whilst the one carried habits of impartial investigation into all departments of knowledge, the other, when he left his own domain, sometimes exhibited only the strength of prejudice. We have recently been reminded, by a fortunate discovery, that Aristotle had drawn up, for comparison, sketches of the constitutions of various cities and nations, and was bent upon forming his opinions on political as on other subjects, by processes of careful induction. Hunter, on the other hand, expressed his vehement desire that those who were not satisfied with their own country would be good enough to leave it, and vowed that he would rather burn his Museum and all its contents than show them to "a Democrate." In spite, however, of these differences, it may be reasonably alleged that, where they met on common ground, the two showed similar habits of thought and intellectual powers not very unequal. Both were systematic and enthusiastic zoologists in times when the study of Zoology was the pursuit of very few. Both saw clearly that advance in Natural-History knowledge could be made only by the collection of facts, and, realising that such advance was well worth the effort, both set themselves zealously to work. It is probably not possible to mention a third name which can be placed in any sort of competition with either in respect to originality of effort in this direction. It has been asserted, by one well able to form an opinion in this matter, that between Aristotle and Kant no meta-physician of original power has appeared. With at least equal truth we might say, in reference to Scientific Zoology, that there was no one between Aristotle and John Hunter. There were of course many who made meritorious efforts with

more or less success, but none whose achievements can in the least compare with Aristotle's Account of the Parts of Animals or with John Hunter's Museum. During the long twenty centuries that were passed through between these two men, there did not appear anyone so capable of applauding Aristotle's work as Hunter,—not one who would have contemplated Hunter's preparations with more true interest than Aristotle. Nor must we, in admitting Hunter's inferiority in scope of attainment, forget the great difference in their occupations. Aristotle, although the son of a doctor, did not practice physic himself, and he was throughout liberally provided with funds. During the most prosperous part of his career his pupil, Alexander the Great, not only supplied him with money, but collected specimens for him in distant lands. As it has been remarked by Sir Alexander Grant, never before or since was the endowment of research on so liberal a scale. It is only justice to our own countryman to remember that no such fortune had fallen to his lot. He had to earn every pound that he expended in zoological science by the practice of a toilsome profession, to which also he was compelled to devote the better half of his thoughts. He, like many other devotees of science, was under the compulsion to earn a livelihood in other pursuits,—a position not wholly unlike that of the Jews of old, of whom it is recorded that they rebuilt the walls of Jerusalem with a trowel in one hand and a sword in the other.

I have ventured to make a halting comparison between Hunter and Aristotle, but I have omitted to mention one characteristic in which they greatly differed. Aristotle earned for himself, in Plato's school, the cognomen of "The Reader," on account of his appetite for books. Hunter acknowledges that he did not read much, and we may well believe it. His whole library sold for only £160, and it is stated that it consisted chiefly of presentation copies. His

writings are all from his own observation. He scarcely ever makes a quotation, and rarely mentions a name. As to how far this neglect of professional literature was an advantage, and how far a loss, there may possibly be some difference of opinion. That to a vigorous mind like his the knowledge of the opinions of others may sometimes be a hindrance to original thought will easily be conceded, to say nothing of the loss of time incurred in the acquisition of such knowledge. It has been well remarked that a man who does not know an accepted explanation is more likely to devise a new and perhaps a better one than he who sees the whole subject as developed already by others' minds. On the other hand, it is unquestionable that ignorance of what others have done may lead not only to much waste of work, and to the re-discovery of that which was already known, but may easily result in a comprehension of the subject less adequate than that already in the possession of others. Were I to venture an attempt to estimate the value of Hunter's work on the venereal diseases,—one which some of his eulogists claim as a master-piece,—I should be compelled in all honesty to declare that it was, in many respects, behind the knowledge of the day. It abounds in sagacious thought, but yet, on not a few matters of detail, those who had written before him entertained opinions which to me seem more accurate. It betrays too great confidence in the author's own opinions, and a want of respect for those of others, which could only come from want of knowledge and of facts.

I trust that I shall not, in the criticism just ventured, be accused of blaming him whom I am here to praise. I wish to put Hunter before you as he was, not to depict a prodigy. In dealing with the life of a man whose whole career was one of outspoken truthfulness, I too must use candour.

We know that praise is pleasant even to the wise, but never was there a man who, less than John Hunter, could have

patiently endured the language of indiscriminating panegyric. Exposed to such a trial I can imagine him breaking out with some similar rejoinder to that which he addressed to Dr. Garthshore, who styled him "My *dear* John Hunter," and got for his pains "My dear Tom Fool."

The position which was taken by the brothers Hunter in reference to the formation of Museums, is of great interest and importance. I am not aware that there exists any proof that Aristotle made attempts to preserve, for the inspection of others, any of the numerous specimens which he and his pupils had dissected. We may, however, feel certain that many such attempts were from time to time made; for the instinct to collect and to keep is one which has existed in all times. Ulysses Aldrovandus, who was born more than two centuries before John Hunter (1522 and 1728), was probably in this matter his first and chief exemplar. Aldrovandus appears to have had all the zeal in zoology which Hunter subsequently displayed. He collected largely; he employed the best artists of the day to depict his specimens; he formed at Bologna a magnificent museum; and he left behind him voluminous catalogues and books, all of them well illustrated. Like Hunter, he spent all that he possessed in the pursuit of the knowledge of Nature; and, like him, he died poor. Probably his effort at museum-making, and at the pictorial illustration of natural objects, was by very far greater than that of any of his predecessors—possibly than that of any person who has followed him. He may, indeed, be regarded as the father of the modern scientific museum. That his collections were miscellaneous and ill arranged we may well believe, and we know that his published statements abound with proofs of credulity and defective insight.

The collection made by Dr. Hans Sloane, and which after his death became—in part by bequest and in part by purchase—the property of the nation, and which now, wtih

immense additions, constitutes the British Museum, was of a very miscellaneous character, and, although it included zoology, certainly gave little or no attention to its scientific aspects. That of William Hunter went very much further in these directions than any which had preceded it. To it his brother had, during the early years of his London residence, contributed largely. It was not till he was thirty that John began to collect for himself, and with him, I think, originated the first conception of a classified natural-history collection,—one which should, in his idea, connect structure with function, and trace the modifications of their adaptation through all the various departments of Nature. He was not content with zoology, but took in botany also, and finally included fossils and mineralogy. Everyone has heard stories of his zeal as a collector—how he begged, bought, and bribed, in order to enrich his collection. To induce the keepers of travelling menageries to let him have their dead animals he used to buy living ones, and loan them out to be returnable at death. At Earl's Court he had a little private menagerie, and also a farmyard. To a large extent he dissected and mounted his preparations with his own hands. Sir Everard Home records of him that he excelled in the manipulative parts of his work, and greatly enjoyed them. That his industry knew no bounds, and that it was invariably well directed by previously acquired knowledge, we have abundant evidence. Some of the stories which have found their way into print are, however, in all probability, great exaggerations,—such, for instance, as the price which he is said to have paid for O'Bryen's body, and the account of his having driven tamed buffaloes through the streets of London. Such stories reach their climax in the statement of one writer that he kept a number of dwarfs and giants living on his establishment in order to make sure of their skeletons.

Here we may stop a moment to make note of an im-

portant association of persons and events. William Hunter, when a youth, resided in the house of Dr. Cullen, then a village surgeon engaged in family practice. It was from this apprenticeship that Dr. Hunter's zeal and devotion to the scientific aspects of medicine dates. He subsequently became Cullen's partner, the arrangement being that the two were in turn to liberate each other to go back to the schools, for the purpose of what would now be called post-graduate study. The result, that Cullen became first a Glasgow and then an Edinburgh professor, and that Dr. Hunter made himself world-famous in London, is known to all. Meanwhile Dr. Hunter had visited Leyden, and had there seen the museum collected by Boerhaave and his pupil Albinus. It was the sight of this museum which fired Dr. Hunter with the desire to make one like it. He returned to London and set to work. His brother John joined him as his assistant, learned his methods, shared his schemes, and kindled at his enthusiasm. Are we right, then, in saying that we owe our Hunterian museum,—one which, let me assert, has no equal in the world,—to John Hunter? Yes, certainly, it was his work. There is, however, good reason for widening the basis of our gratitude, since had it not been for Dr. Cullen and Dr. William Hunter, for Boerhaave and Albinus, no such museum would ever have come into existence.

It is perhaps not generally known that John Hunter's Museum contained a valuable collection of Fossils. There were nine hundred specimens, and to a catalogue descriptive of them Hunter had written, by way of introduction, a most valuable essay on the general facts of Geology. The extent of knowledge displayed in this essay is really wonderful, especially for one who had not enjoyed opportunities for travel, but had been kept most of his life hard at work in London. When we call to mind that William Smith,—"Stratum Smith" of his friends,—"the

father of English geology," was a young man of four-and-twenty when Hunter died, and that Werner and De Saussure —the geological pioneers of Germany and Switzerland— were both younger than Hunter, the performance of the latter becomes the more astonishing. He appears, indeed, to have anticipated in this, as in so many other subjects, the lines of the discoveries of the future. It is the privilege of genius to go further than the facts. The historian Niebuhr boasted that all future discoveries of contemporary documents in Roman history would only confirm the conclusions which he had already announced; and Hunter, had he been so inclined, might have said almost the same of this noteworthy preface. The fact that the fossil organic remains belong almost invariably to individuals very similar to, but not identical with, those now existing, is fully recognised. The sedimentary nature of most fossil-bearing rocks, and the influence of water as the great cause of change on the surface of our planet, are brought out with the utmost clearness and emphasis. With unconscious courage, worthy of either of the Darwins, the fact that enormous periods of time must have elapsed in order to permit of those changes is simply taken for granted. The expression "many thousands of centuries" slips from Hunter's pen as if the duration of life on this planet were as much a mere matter for research as is the life duration of an elephant. How far he was in advance of his age in this matter may be gathered from a letter which our great geographer, Major Rennell, wrote to him. Hunter appears to have asked Rennell's criticism of his essay, and the following is a paragraph from an interesting letter which he received: — "This leads me to remark that, in page 3, you have used the term 'many thousand centuries.' Now, although I have no quarrel with any opinions relating to the antiquity of the globe, yet there are a description of persons, very numerous and

very respectable in every point but their pardonable superstitions, who will dislike any mention of a specific period that ascends beyond 6000 years. I would therefore, with submission, qualify the expression by 'many thousand YEARS' instead of 'CENTURIES.'"

What Hunter thought of this proposal that he should deliberately sacrifice truthfulness of expression to the prejudices of others may be easily conceived.

Unfortunately this Essay of his on 'Fossils' was not published in his life-time. By this omission he has lost the position which might have been fairly claimed for him as being the Father of Palæontogy. The Essay in MS. was one of those which in Reynolds' portrait of Hunter we see lying on the table. It was printed by this College in 1859, but it is little known, and I have not found it quoted by any geological author.

The great question now lies before us, In what did Hunter's strength consist? His well known reply to Dr. Garthshore when saluted with "Well, John Hunter, still at work!" was "Yes! and when I am gone you will not easily find another John Hunter!" He was quite right. For more than half a century no one appeared who was in the least qualified to take up his work. In the course of time, it is true, the Museum which he had so much loved passed under the hands of an Owen and a Paget, men well entitled to take rank with its founder; but be it noted there were two of them, and the subjects which Hunter had unaided held in his giant's grasp were now divided. Biology and pathology were recognised as different, and as each enough for one mind. Nor will they ever be re-united again in the sense in which he united them. We shall have many physicians and surgeons in the future who will take delighted interest in the topics which concern Zoology, Botany and Geology; but the race of medical naturalists, as illustrated in Grew, Boerhaave, Haller, Camper, and in

transcendent excellence in Hunter, is one of the past. I will not detain you with explanations, for the reasons are plain.

It has been said many times that the source of Hunter's success lay in his combination in one person of the qualities of thinker and observer. Undoubtedly he did combine them in a way which few others have ever done. He tells us that it was his delight to think, and he alludes fondly to ideas which came to him in his arm-chair by the fireside, thus proving that under conditions of ease his mind reverted with pleasure to his pursuits. That he was an observant man, one who not only availed himself of all opportunities which came before him, but sought them out and made them for himself, every page of his writing goes to prove. "Don't think but try," was one of the now celebrated sentences in which he inculcated upon one of his friends the duty of experiment and observation. In it the word "think" must, of course, be understood in its lower sense, as applied to an untested belief or supposition, a sort of taking for granted. Never in his life did Hunter utter one syllable in disparagement of careful thinking. Never, perhaps, was his special strength in relation to others more accurately estimated than in an exclamation of Sir James Paget's in this theatre nearly forty years ago. The occasion was the production of one of our museum specimens which Jenner had obtained, of which Cavendish had made a chemical examination, and which finally Hunter had described. Well do I remember the burst of applause which followed the declaration:—"Surely never were the elements of an inductive process combined in such perfection—Jenner to observe; Cavendish to analyse; Hunter to compare and to reflect."

The superior value of reflective qualities over those of mere observation has been insisted upon by Mr. Buckle, who urges that for one man who can think we have twenty competent to observe. Browning has, however, put it somewhat other-

wise, and—in allusion, perhaps, to a somewhat different class of facts to those which Buckle had in his mind—has declared

"I tell you men won't notice; when they do they'll understand."

Granting that the perceptive faculties are primary, it may, I think, still be argued that they are seldom developed to any unusual extent without corresponding increase in the powers of reflection. They indeed supply the food for thought, and naturally excite it; whilst, on the other hand, thought suggests and prompts to further observations. The two usually go together, and, putting aside mere superficial observation, such as is done without effort and method, and denying that this deserves the name of observation at all, I much prefer Browning's expression to the assertion of Mr. Buckle. Hunter's excellence consisted not then in that he, contrary to rule, combined the two faculties,—for I contend that they co-exist,—but rather that the vigour of both faculties was in him far beyond that of the average man.

There were, however, other qualities of great importance which were elements in Hunter's character, and to which those who wish to train others to emulate his career will do well to give attention. First amongst them I will place his insatiable thirst for knowledge. Another of Browning's vigorous lines occurs to my memory which is descriptive of Hunter's habitual state in this respect, and as it includes a medical—I might say a pathological—image I have the less hesitation in quoting it here. It is from the "Grammarian's Funeral," and it declares—

> "Back to his studies, fresher than at first,
> Fierce as a dragon,
> He, soul-hydroptic, with a sacred thirst,
> Sucked at the flagon."

Whence, then, in Hunter came this "sacred thirst," and how shall we as parents and as teachers seek to develop it in our children and our pupils? It was, as I have already

argued, innate. It was born with him, just as much as were the colour of his hair and the form of his features. For this hereditary transfer the Hunters and the Pauls of former generations—nay, the whole race of his predecessors—are to receive full credit. Their zeal after knowledge culminated in him. It is not possible to award their shares to individuals, for the parentage of a man's mind counts by thousands of influences, and passes back into centuries of time. Let us, however, as teachers, feel no discouragement in acknowledging the truth that the John Hunters of the future must be bred, and cannot be possibly obtained by mere training. Rather let us take courage in the thought that much of what may for the present seem to be seed scattered to the wind, and from which we see but little hope of a crop, is certain in the future to produce a harvest. "Though the mills of God grind slowly, they grind exceeding sure."

If we turn now from what Hunter inherited to the influences brought to bear upon his personal life, to the circumstances which either favoured or hindered the development of that appetite for knowledge and aptitude in its acquisition, which he displayed, we must consider first his early education. Was it an advantage to him or a reverse that he was brought up on a farm, and that all the tuition he got was at the parish school? To this we may reply that probably his country pursuits not only favoured his physical development, but were useful to him in the formation of his powers of observation and self-reliance. As to the school very much would depend upon the schoolmaster, and on this matter I believe we have not the smallest fragment of information. That Hunter was, however, fairly well versed in the elements of school education is, I think, unquestionable. He mixed as an equal in London with men of high training, and was a prominent Fellow of the Royal Society, earning for himself the title of "Cerberus," given possibly in recognition

of his zeal in exposing false pretences to knowledge. He never had any fear of taking the pen in hand, but wrote at great length, and often with much vigour of expression. That his orthography was not perfect, and that his style was sometimes slipshod and obscure, may be admitted. It must be remembered that in his day much wider liberties in these respects were permitted and taken than now. It must be remembered, also, that much of what he wrote was composed under very disadvantageous circumstances,—when wearied in the evening for instance, or at odd hours amid the distractions of practice; and, further, that he usually wrote by dictation, and employed as his amanuenses his artist, Mr. Bell, who was uneducated, and sometimes even his coachman. Further, too, it must be borne in mind that several of his publications did not receive his final corrections, but were published, with but careless revision, after his death. His obscurity is also to some extent due to the fact that he was dealing with thoughts which went deep, and for which as yet there was no familiar vocabulary. As one of his apologists in this matter has alleged, "His discoveries had exhausted the language of Science."

To these facts, as well as to his defective education, we must attribute the circumstance, that he but too often permits himself the use of vague and metaphorical expressions.

The language of Science should be as materialistic as possible. If the phrases of this language do not convey material conceptions they have, in most instances, no real meaning. Many of the subjects, however, with which we have to deal are too complex to be as yet treated concisely, and hence the difficulty we so often feel in expressing our meanings.

Hunter, although speaking with strong disparagement of definitions, saying of them that, "of all things on the face of the earth they are the most cursed," could not help

recognising that they are essential to exactitude of thought and clearness of description.

Definitions, indeed, appear to have exercised a sort of fascination over Hunter's mind. He is much puzzled by the difficulty of so defining the terms, "shrub" and "tree," as to distinguish the things. Throughout his most interesting Essay on Geology, he is plagued by doubts as to the legitimate use of the word "fossil;" and for the first and only time, so far as I have noticed, he betrays some anxiety as to what "the critics" may say.

If, however, from internal evidence, we may venture to contend that it is certain that Hunter's education in boyhood was far from neglected, what shall we say as to the important years which elapsed between school and the commencement of his London career at the age of twenty-one? We know that, some years later still, when his brother entered him at Cambridge with a hope of repairing the half-wasted opportunities of youth, Hunter himself peremptorily put an end to the plan, and declined "to stuff Latin and Greek." That he was in the right then few will doubt, for he was advancing in years, and his tastes for anatomy and zoology were in full force. It would have been a mistake then to fall back upon the classics. This does not, however, by any means prove that University training at the proper time would not have been very useful to him. We know what Hunter, unaided by this training, did actually accomplish; but we shall err, I think, very seriously, if we conclude that he would probably not have accomplished so much had his youth been spent at a University instead of in a cabinet-maker's shop. The subject is too large a one for discussion here, but we may remember that the possession of classical knowledge did not encumber the minds of Bacon, of Harvey, or of Newton. I will ask your permission to record my own conviction that, had Hunter obtained it at the proper time, it would have been greatly to the advantage both of his readers and himself.

For those of us who are placed in positions of responsibility as regards the future training of the medical profession important lessons are to be obtained from Hunter's life. In the first place, let us impress ourselves with faith in the power of that innate desire for knowledge which is the inheritance, if not of all, at any rate of all in the least fitted for our pursuits. We have seen what it effected in Hunter's case. Hunter was not alone in its possession. "Who loves not knowledge?" It is not that its possession is not a delight to all, but that the toilsome methods by which it is acquired, and the difficulty with which it is retained, disgust the idle and sometimes dismay even the zealous. Let us adopt Hunter's methods, and take our students more directly to Nature herself. Let our education become more objective, and concern things rather than books. Let us renounce utterly all remnants of the methods by which the pedagogues of the past so often succeeded in making the very name of education distasteful. Let us trust to the intrinsic attractions of our subjects, and resort as little as possible to compulsion in respect to methods of study. Let our examinations become more objective and less merely verbal, and the examiner will soon be recognised as the friend and not the torturer of the candidate. Above all, let us avoid the error of trying to make all minds fit into one and the same mould, and, whilst doing all we can to encourage breadth in preliminary study, let us remember that there have, from time to time, arisen men who without its aid have brought gain to Science and credit to themselves. Lastly, in reference to our University schemes and our Curricula of Education, let us remember Hunter's aphorism, that life precedes and causes organisation, not organisation life; and beware lest by the premature imposition of too artfully contrived arrangements we hinder the development of LIFE.

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